Around the World

With George F. Taubeneck

Goodbye for Now

Taking a trip around the world is apparently a deep-rooted desire in the hearts of most men.

Since early last fall we have been telling people about the half-year's journey around the globe on which this department is leaving next week, and almost without exception the response has been:

"Say! Don't you need a valet? (Or bodyguard, shoe-shiner, brief-case-carrier, secretary, singer-to-sleep, drink-mixer, or shuffleboard partner.)"

LES MOFFATT of *Electrical Merchandising* and JULIEN ELFENBEIN of *House Furnishings Review* have each voiced the hope that this trip would be the forerunner of a Send Business Paper Editors Abroad movement.

Refrigeration executives have had the reaction that the business paper business must be pretty good. Their junior assistants have asked how they could get a job on our paper.

Everybody, in brief, seems to envy us the trip; yet at the same time rejoice with us in the opportunity.

* * *

Helpful Friends

Advice and help have come from many quarters. Letters of introduction—which seem to be very important when visiting abroad—have been given us by export executives of General Electric, Frigidaire, Westinghouse, Norge, Crosley, Carrier, York, and Dry-Zero.

These same export men have told us in detail what not to wear, how not to act, what not to eat, where not to go, how to avoid being played for a sucker, whom to avoid, what not to take, why you shouldn't trust anybody, how you'll get gypped on the exchange of money, what not to expect in accommodations, and in what ports I'll probably catch the bubonic plague, amoebic dysentery, virulent cholera, yellow fever, and beri-beri, respectively.

Cheerfully each of these well-traveled cosmopolites has told us that with the tensions now existing in the Near and Far East, and in Europe, we'll undoubtedly be jailed as a spy sooner or later—what with our photographic equipment and mania for taking pictures of everybody and everything.

* * *

Through These Eyes

But everybody, traveled or untraveled, agrees that it will be a grand trip, and that they would like to go along.

It not being advisable or convenient to charter a boat and take along *all* our friends, we'll do the next best thing: We'll see as many people and sights as we can, and tell you all about it in the columns of ELECTRIC REFRIGERATION NEWS.

In other words, if you keep your subscription to the NEWS renewed, we're going to try very hard to make it easy for you to see the world through our eyes.

Rather than spend our time looking at ruined castles, gloomy cathedrals, and old master paintings, we're going to be visiting refrigeration sales organizations abroad.

It's our purpose to find out who is selling refrigerators and electrical appliances and air-conditioning equipment in foreign lands, how they are selling them, who is buying them, what is the potential market, what are the peculiar needs and habits of prospects, and what are the terms on which business is being done.

In every port of call there are at least three times as many names on our list as we'll possibly have time to visit during the limited time at our disposal.

When we were outlining our plans for this trip to Vice President A. E. ALLEN of Westinghouse, he ejaculated:

"Why, when you get back you'll have gone around the world, and all you'll have seen will be a bunch of roll-top desks and last year's model refrigerators!"

But never fear. We'll try to see and report some of the other things for you, too.

* * *

The Itinerary

Next Wednesday, Jan. 8, we plan to attend the Kelvinator convention in Detroit, and then load up the Auburn speedster and start.

First stop will be Jackson, Mich., to look in on the Sparton convention. Then Chicago, and a visit with Stewart-Warner officials to get the story of their new line.

That done, we'll sail down the wide new Governor's Highway to St. Louis. Thence to Oklahoma City, and on to San Diego and Los Angeles via the southern route.

After quick visits with our friends in California, and after disposing of the Auburn speedster, we embark on the following itinerary:

Jan. 25, sail from San Francisco, *S.S. Malola.*

Jan. 30, arrive Honolulu, Hawaii, in the morning. Stop over six days.

Feb. 5, sail from Honolulu, *S.S. Aorangi.*

Feb. 14, arrive Suva, Fiji Islands, in the morning. Six hours in port.

Feb. 14, sail from Suva, Fiji, in the evening, *S.S. Aorangi.*

Feb. 17, arrive Auckland, New Zealand, in the morning. Two days in port.

Feb. 18, sail from Auckland in the evening, *S.S. Aorangi.*

Feb. 22, arrive Sydney, New South Wales, Australia, in the morning. Stop over in Australia about 14 days. Visit various interior points of interest.

March 7, sail from Sydney, *S.S. Marella.*

March 9, stop one day in Brisbane, Queensland, Australia.

March 12, stop few hours in Townsville, Queensland, Australia.

March 15, visit few hours in Thursday Island.

March 19, visit few hours in Darwin, North Australia.

March 24, stop over one day in Sourabaya, Java.

March 25, stop over one day in Semarang, Java.

March 26, stop over one day in Batavia, Java.

March 28, arrive Singapore, Straits Settlements, in the morning. Four days in and about Singapore.

April 2, sail from Singapore, BISN steamer.

April 4, one day in Penang, Straits Settlements.

April 7, arrive Rangoon, Burma. Four days in and about Rangoon.

April 11, sail from Rangoon, via BISN steamer.

April 14, arrive Calcutta, India, in the morning. Eleven days in India, crossing to Bombay by train.

April 25, sail from Bombay, *S.S. Moloja.*

April 29, stop four hours in Aden, Arabia.

May 3, arrive Port Said in morning. Stop one week—three days in Egypt and three days in Palestine.

May 10, sail from Port Said in morning, *S.S. Naldera.*

May 13, Call few hours in Malta.

May 15, arrive Marseilles in the morning.

Dates of arrival at the following cities on the itinerary have not yet been definitely determined:

Paris, France; Berlin and Leipzig, Germany; Milan, Italy; Zurich, Switzerland; Stockholm, Sweden; Vienna, Austria; Budapest, Hungary; Prague, Czechoslovakia; London, England; Amsterdam, Holland.

June 14-16, the International Congress of Refrigeration, The Hague, Holland.

* * *

Welcome Mats Out

Subscribers from many points on our journey have already written us extending a glad hand, and hoping that we'll call on them. All that, of course, makes mighty good reading to us. Perhaps you might be interested in some of these letters from far corners, too. In that case, here is a representative selection:

* * *

The Lightfoot Refrigeration Co., Ltd.
Ellarcold Department
Bush House
London W. C. 2., England

Editor:

We are also very much alive to the the fact that this country, with others, is becoming "Air Conditioning Conscious," and it was almost decided that the writer would visit the U. S. A., in the early spring, to look into the matter from your point of view. Apparently, the "Mountain is coming to Mahomet!"

I shall, therefore, defer my visit until I have had the pleasure of meeting you in this country. I should be very pleased if you could spare me one or two days for discussion, and I should also be pleased to arrange for you to view some of our plants.

Frigidaire is already advertising throughout the country regarding "air conditioning" and we do not see eye to eye with them over the matter, because what they call "air conditioning" is apparently "air cooling," whereas, we know air conditioning only as irrespective of outside conditions of temperature or humidity.

This is leading to a great deal of confusion, because your ideas of air conditioning do not run parallel with ours, and we have had cases where we have quoted for true air-conditioning equipment (which is very expensive) and have lost the job to other firms who have quoted for "Air Conditioning" which proved to be nothing more than "Air Cooling."

We have also had considerable experience with fitting our machines on railway carriages in Australia and Malay, for the true air conditioning of the carriages.

Another point on which we should appreciate information from you would be with regard to the finned coolers for air conditioning that are now made in the United States. We are quite willing to contemplate purchasing these coolers in the U. S. A., for use with our "Lightfoot-Ellarcold" equipment, and we have in mind coolers supplied by say, Fedders and Lipman, and if you are able to put us in touch, or to bring with you information regarding this type of cooler, it would be much appreciated.

In the meantime, I enclose a couple of booklets which will no doubt serve to pass the time whilst crossing the Atlantic!

I should appreciate as much warning as possible regarding your visit, as I spend part of my time at our Birmingham Works. If I should be absent when you call, please ask for Mr. Nolcken, our technical supervisor, or Mr. Yem, but in any case, please fix a second appointment, as I should very much like to see you before you return.

F. F. BRIGINSHAW,
General Manager, Ellarcold Dept.

* * *

Carp & Co.'s Handelmaatschappij N. V.
De Lairessestraat 111
Amsterdam, Holland

Editor:

We were pleased to learn that you intend to visit our country during your trip planned for 1936.

We shall be very pleased to receive your visit.

J. R. CARP.

* * *

Frigidaire G. M. B. H.
Berlin NW 87
Wiebestrasse 12
Germany

Editor:

We will be pleased to see you here on your intended trip around the world, and to give you any assistance and all the information you may require pertaining to the market for refrigeration in our country.

U. v. KREMSKI, Branch Manager.

Aktiebolaget Elektrolux
Stockholm 7, Sweden

Editor:

Are interested to learn that you intend to visit Sweden some time in the beginning of next year. We shall indeed be pleased to meet you and to give you all the assistance and help we can.

We believe we can leave it till then to discuss what other firms it might interest you to see. We would mention, however, that there are no other makers of household refrigerators in Sweden besides ourselves and only two makers of commercial equipment who, however, as far as we know have not yet touched the field of air conditioning.

These two firms have headquarters in Stockholm so that there will hardly be any need for you to visit any other places in this country. We believe that if you spend three or four days in Sweden this will be quite sufficient.

The undersigned should like very much to meet you personally and in view of the fact that he frequently is away abroad he would deem it a favor if you would let him know as soon as you possibly can the approximate date of your visit to Sweden so that he can try to plan his travels accordingly.

NILS LAURIN,
Manager Refrigeration Dept.

* * *

Gregorakis & Co.
17 Rue Kasr El Nil
Cairo, Egypt

Editor:

In connection with your trip around the world, we are delighted to see that you are including Egypt in your itinerary.

The only towns in Egypt worth visiting are Alexandria and Cairo, in which we possess branches.

We would be delighted if you advise us of the date of your arrival in order that we may meet you and assist you in visiting this country.

GREGORAKIS & CO.

* * *

Hans Finsterle
Dorotheergasse 7, Vienna, Austria

Editor:

Your proposed trip around the world is of great interest to me. In any case you will have much occasion to work for the increasing of the market of electric refrigeration during your journey.

I have spoken with some gentlemen of firms interested in the refrigeration line and all are awaiting your visit with pleasure. If you will visit Austria I think only Vienna will be from interest to you as the other towns are too small to have a worth mentioning market especially for air conditioning. If you need informations about Hungary, Czechoslovakia, or Yougoslavia I can serve you with some informations as I know these countries and the refrigeration market. During the years 1926 to 1932 I was Frigidaire distributor and from 1933 I am Crosley distributor and have much experience in this line.

HANS FINSTERLE.

* * *

"Frigomat"
Laxenburgerstrasse 36
Vienna, Austria

Editor:

We are pleased that your worthy Mr. Taubeneck, editor, has in view a trip to Europe to visit Vienna and I figure that he will visit us first as one of the largest inland firms. We will not hesitate to show him the beautiful city of Vienna and its lovely surroundings and hope to spend several days with him.

Mr. Taubeneck will receive any information that he may wish from us with the utmost pleasure.

* * *

The Hawaiian Electric Co., Ltd.
Honolulu, Hawaii

Editor:

We are glad to hear that you may pay us a visit during 1936, and if you will advise us in advance just when you expect to arrive and the length of your visit here, we will endeavor to give you what information regarding the electric refrigerator business in this territory that we can.

Practically all of the leading refrigerators are being distributed in this territory, and sales of units for 1935 will exceed 4,000.

The members of the local refrigeration bureau will also be glad to do anything for you that they can.

C. E. NOLAN, Appliance Sales Dept.

* * *

Asea Electric, Ltd.
5, Chancery Lane
London, W. C. 2, England

Editor:

We shall be very pleased to welcome a visit from your editor when he decides to come to Great Britain.

We should like to take this opportunity of expressing our appreciation of the newsy character of your Journal, and although it is mainly published for the benefit of your American subscribers, the information we have gleaned from it from time to time has definitely been of assistance to us in the development of our electrical sales for refrigeration machinery in this country.

ASEA ELECTRIC, LTD.

* * *

F. C. Lovelock, Ltd.
235 Clarence St.
Sydney, Australia

Editor:

The writer was particularly pleased to learn of your proposed trip around the world, and of your anticipated stay over in Sydney early in 1936.

I am very anxious to meet you and also to hear in the near future of the exact date of your arrival. It will indeed be a great pleasure to make your personal acquaintance.

F. E. HANSEN, General Manager.

* * *

Lewers & Cooke, Ltd.
P. O. Box 2930
Honolulu, Hawaii, U. S. A.

Editor:

We are pleased to learn of your contemplated trip around the world, and shall be glad to have you call upon us during your stay in Honolulu. We might suggest that you advise us ahead of time when you expect to be here, so that those in our organization who are interested in refrigeration and air conditioning can arrange to meet you while you are here.

We are sure it will not be possible to gain a very clear picture of this field in the one day that is usually allowed on the schedules of so many of the through boats, and we think you will find it well worth while to stop over in Honolulu a few days if your plans will permit.

E. L. PARIS, Secretary.

* * *

Searsint, Ltd.
Thames House, Millbank
London, S. W. 1, England

Editor:

We note that you hope to be visiting this country in the near future. Needless to say we shall be very pleased to do all we can to make your stay here interesting and pleasurable.

You will no doubt advise us when you have definitely fixed your plans and the writer will look forward to the pleasure of meeting you.

E. M. GREEN, Managing Director.

* * *

Frigidaire
Edgware Road, The Hyde
London, N. W. 9, England

Editor:

We have learned of your proposed visit here, and we shall be glad to talk to you when you are in this vicinity.

JOHN E. LINEBAUGH,
Chief Engineer.

Mr. Young Goes Home

The editor's camera caught this snap-shot of Owen D. Young, chairman of the board of the General Electric Co., leaving the G-E Bldg. in New York at 5 o'clock in the evening. P.S.: He rides in a Buick.

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Court Receives Grunow Plan of Reorganization

Company Is Authorized to Buy Materials for New Refrigerator Line

CHICAGO—W. C. Grunow and C. H. Albers have been appointed permanent trustees for General Household Utilities Co. under Section 77B of the Bankruptcy Act and officials of the company have filed a plan of reorganization which will be considered Jan. 22 before Special Master C. A. McDonald. Federal Judge P. L. Sullivan set Jan. 30 as the date for final hearing on objections to the plan.

On Dec. 30 the court authorized the company to buy all materials necessary to put the 1936 Grunow line of household electric refrigerators into production. In a letter to distributors written immediately thereafter, Mr. Grunow declared that samples would be ready to ship in a month, with volume production underway sometime in February.

Essence of the plan of reorganization is a new first mortgage loan of $600,000 to the company by the Reconstruction Finance Corp., which loan will be secured by a first lien on the plant at Marion, Ind., and the fixtures, machinery, and equipment of the plants at Chicago. The loan will mature serially over a period of five years.

The RFC has also agreed, upon consummation of the plan, to make available to the debtor a revolving fund of $400,000 to be secured by the pledge of current accounts receivable.

In order to furnish the security required for the RFC loan, it will be necessary for the company to obtain the release of collateral pledged for the $225,000 claim of the Federal Reserve Bank of Chicago. Mr. Grunow and G. A. Ball of Muncie, Ind., a director of the company, have agreed to buy the company's notes from the bank thus releasing the lien on the properties. Mr. Grunow and Mr. Ball will accept, for the money so advanced by them, preferred stock on the same basis as unsecured creditors.

Upon consummation of the plan,
(*Concluded on Page 5, Column 1*)

James Knapp to Train Klein Co. Salesmen

PHILADELPHIA — James Knapp has been appointed personnel manager of the electric refrigeration division of Klein Stove Co., Leonard distributor in this territory for the past 28 years. Mr. Knapp will have charge of the hiring and training of retail salesmen for dealers in the Klein distributorship, and will assist these retail men in the field. His experience in this work covers the past 10 years.

1st York Convention For Distributors Opens Jan. 13

YORK, Pa.—First distributor-dealer convention that York Ice Machinery Corp. has ever held at its factory here will open next Monday, Jan. 13, for a three-day session.

Program for the convention is being arranged by C. A. Pearson, national commercial supervisor, and J. L. Rosenmiller, sales promotion manager.

Monday the distributors will hear William S. Shipley, president, and other executives, and will make a tour of inspection through the West York plant where Freon compressors are made.

Tuesday morning S. E. Lauer, general sales manager, will speak on "The York Organization and its Products," reviewing the past history of the company in both engineering and sales work, and outlining the present organization. He will be followed by Mr. Pearson, who will talk on the York distributor franchise. In the afternoon the conventionites will tour the company's Grantley plant.

Wednesday morning F. E. Dennison, designer, will speak on "Quality in Freon Machines." He will be followed by John R. Hertzler, manager of York's air-conditioning department. Next, Frank White of the service department will discuss installation and service.

Paul Carlson of the commercial division will outline 1936 markets for commercial refrigeration equipment, and Mr. Rosenmiller will present sales promotion and advertising plans for the new year.

Ranco Building New Factory & Offices

COLUMBUS, Ohio—Automatic Reclosing Circuit Breaker Co., manufacturer of Ranco controls for household refrigerators, is erecting a new factory and general office building at West Fifth Ave and the Olentangy river here. The building will be ready for occupancy in the near future.

A feature of the structure, which is of one-story triple-monitor design, is the provision made to utilize natural illumination to the fullest possible extent. To insure the maximum admittance of daylight, arrangement of windows is practically continuous on all sides of the plant. The triple-monitor design also provides increased illumination.

The plant consists of four relatively narrow bays, alternating with three wide and high bays, the latter designed to furnish overhead lighting. There are no masonry piles in the entire window course. Roof supports are placed in the low bays, while the high bays are of clear span construction.

Reinforced concrete footings, 20 ft.
(*Concluded on Page 5, Column 1*)

Editor Starts World Tour From Kelvinator Meeting

Dairy Industry Show Scheduled Again

NEW YORK CITY—The Ninth Dairy Industries Exposition, which its sponsors claim to be the greatest single show of machinery and equipment sponsored by any industry, and always replete with commercial refrigeration exhibits, will be held the week of Oct. 12 this year, in Atlantic City, the Dairy and Ice Cream Machinery and Supplies Association, sponsor of the show, has announced. The last exposition was held in 1934 in Cleveland.

Scene of the exposition will be Atlantic City's $15,000,000 municipal convention hall, which will house the nearly five acres of exhibits comprising the show.

International Association of Milk Dealers and International Association of Ice Cream Manufacturers will hold their conventions in Atlantic City during the week of the exposition.

Seventeenth annual meeting of the association will be held Feb. 10 in Hotel Pennsylvania here. At this time, policies for the year will be formulated and plans for the exposition will be examined.

Approximately 150 companies, which provide the dairy products industries with between 400 and 500 different types and items of machinery, equipment, supplies, materials, and special services, are members of the association.

Perfection Parts Co. Buys Out Trico

HARVEY, Ill.—Perfection Refrigeration Parts Co. of this city has purchased the manufacturing division of Trico Compressor Service, Chicago.

Through this aquisition, Perfection takes over the manufacture of compressor seals, flapper valve plates, seal faces, and other refrigeration compressor replacement parts formerly made by Trico.

Purchase of the Chicago firm was a further step in the program to round out the line of Perfection certified parts for refrigeration units, declares D. H. Daskal, president of Perfection Refrigeration Parts Co.

Stratton & Terstegge Co. To Handle Leonard

LOUISVILLE—Stratton & Terstegge Co. here has been appointed distributor of Leonard refrigerators for Kentucky and Southern Indiana. This firm formerly distributed Electrolux.

Reports Surprise Features of 1936 Line & Plan in No. 1 Story of 'World Series'

By George F. Taubeneck

DETROIT—Around the world in search of news—and the biggest news story of them all right in our own front yard, at the Kelvinator plant just a few miles from the starting point. That is a verdict which readers of ELECTRIC REFRIGERATION NEWS are likely to render after reading all the stories—including this one—which this writer will send back from his lengthy journey to study the refrigeration situation everywhere.

Making a prediction of this sort at the *start* of such a long trip might seem to be risky; but at the present writing the editor of the NEWS doesn't see how any single story can contain more elements of news to the refrigeration trade than does the announcement of Kelvinator's 1936 products and program—made for the first time anywhere right here in this issue of ELECTRIC REFRIGERATION NEWS.

Consider this condensed summary:

1. Both 1936 Kelvinator household lines will carry a five-year "protection plan" (substantially the same warranty against mechanical service troubles as offered by General Electric and Westinghouse).

2. A thermometer is built into every model—first time this feature has ever been offered by any manufacturer. Attached to the ice tray compartment, it will tell the housewife at any time what temperature is being maintained inside her refrigerator.

3. With every Kelvinator refrigerator will be furnished a Certificate of Low Operating Cost, which will attest to the current consumption under certain conditions of an identical model put through its paces by Electrical Testing Laboratories.

4. Super Deluxe models will have two compartments, insulated from each other, served by two evaporators operating off the same compressor, holding two different temperatures, and each having its own door. One chamber, refrigerated by a conventional shell-and-tube evaporator, is designed for rapid freezing and low temperatures. The other chamber, refrigerated by a plate coil running down one side of the compartment, is for food storage, and is designed to prevent dehydration.

5. An interior fan, mounted in the upper right inside corner of the food
(*Concluded on Page 4, Column 1*)

Price of Freon Cut; Cylinder Trading Plan Announced

WILMINGTON, Del.—Contracts of Kinetic Chemicals, Inc., covering the refrigerant Freon for 1936 received recently by manufacturers of refrigerating equipment reveal that prices have been reduced, from the 1935 scale, 7 cents per pound in tank cars and on each of the cylinder sizes.

Contracts are for a nine months period in order to switch the contract period from the calendar year to the "refrigeration year," which Kinetic Chemicals officials declare is now generally recognized as beginning Oct. 1 and ending Sept. 30.

The distribution plan which accompanied the contracts shows that charges for distribution have been lowered by 2 cents when the refrigerant is obtained at warehouses and 1 cent when shipped from Carney's Point. Distributors are therefore being charged 9 cents less than 1935 prices when Freon is obtained from warehouses and 8 cents less than last year when it is shipped from Carney's Point.

An innovation in the distribution plan is the cylinder trading feature. Heretofore distributors have had to return the empty cylinders to Carney's Point in order to be reimbursed for their cost. Cylinders may now be traded in at warehouses on a new
(*Concluded on Page 5, Column 1*)

Crosley Appoints Four New Distributors

CINCINNATI—Crosley Radio Corp. has just appointed four new distributors, reports Neil Bauer, field sales manager.

New distributors are: Morris Distributing Co., Binghampton, N. Y., and this company's branch office in Albany, N. Y.; Maurer-Greusel Co., Milwaukee, for both Milwaukee and Madison, Wis.; Motor Power Equipment Co., St. Paul, Minn.; and the Moore-Bird Co., Denver, for Colorado and parts of New Mexico and Wyoming.

All Set with Passports and Introductions for Survey of Refrigeration Export Markets

"And here is Singapore," says Publisher F. M. Cockrell as he traces the route of Editor George F. Taubeneck's trip around the world to the staff of the News gathered around the globe in the reception room. Starting from Detroit today (Jan. 8) he will drive his car via St. Louis, Oklahoma City, El Paso and San Diego, sailing from San Francisco on Jan. 25.

Henry Burritt, vice president of Kelvinator, presents to George Taubeneck a blanket letter of introduction to all Kelvinator dealers around the world. In the picture from left to right: J. A. Harlan, H. W. Newell, G. W. Mason, H. G. Perkins, F. M. Cockrell, H. W. Burritt, George Taubeneck, V. J. McIntyre, Godfrey Strelinger, S. C. Mitchell, and E. A. Seibert.

Westinghouse Distributors Go 'High Hat' During Annual Meeting at Mansfield

(1) Westinghouse organized a Distributors' Quota Busters Club during its recent convention at Mansfield. Here are some of the officers. "Roper" J. E. Sweeney, Omaha; "Wrangler" T. D. Sunier, Salt Lake City; "Foreman" D. C. Pence, Los Angeles; "Rancher" J. H. Fisher, Allentown, Pa.; Westinghouse Vice President A. E. Allen; "Foreman" W. M. Jewell, Richmond, Va.; "Roper" H. M. Moock, Canton, Ohio; and "Wrangler" N. D. Abell, Monroe, La. (2) Dinner-table conference. Participants: M. B. Amstater, El Paso, Tex., J. S. Shaw, Birmingham, Ala., R. C. Cosgrove, Westinghouse household refrigeration sales manager, and Mr. Allen.

News Editor Gets Some Tips for His World Tour from Norge Export Men

(1) C. L. Fossatti of the Norge export department was a guest at the company's banquet for distributors during the recent convention in Detroit. He was also a valued source of "what to do" suggestions regarding the editor's round-the-world trip. (2) As always, entertainment at the banquet was furnished by artists under the direction of Corinne Muer. (3) A group of entertainers, with the incomparable Miss Muer, herself. (4) Another Norge foreign authority here for the convention was B. Mittell of Electrical & Musical Industries, Ltd., London.

200 Public Utility Executives Discuss Methods of Selling to Small Customers

CLEVELAND—More than 200 public utility executives, representing operating companies from all parts of the United States, exchanged views on methods of load building at the annual conference here recently of central station merchandise managers, sponsored by the specialty appliance sales department of General Electric Co.

Much discussion centered around the "problem child" of the utility—the unprofitable customer—and the ways and means by which he can be turned into a profitable meter user. Other topics brought before the conference included financing plans, utility-dealer cooperation, and the value of various home appliances as domestic load builders.

Promotion of low priced electric refrigerators through use of rental and long-term payment plans was the chief means of load building which executives advocated in relating sales experiences.

Glenn L. Jackson of the California-Oregon Power Co. reported that offering the G-E Flatop on a 30-month payment plan enabled his company to sell 3 per cent of its minimum bill customers—adding an average of 16 kwh. per months to their bills.

Further substantiating the contention that a low-priced model builds up the meter consumption rate, O. M. Jackson of the Georgia Power Co. told the conference that 1,600 Liftop refrigerators had been placed in homes of this company's small-power users by means of a rental plan.

Despite the 45 per cent saturation on refrigerators in its territory, Gulf States Utilities Co. sold between 1,500 and 2,000 Liftops, Parker Allen of that company reported.

Reiterating the importance of electric refrigerators as a load builder, L. R. Leslie of the Delaware Power & Light Co. said: "Revenue produced by all domestic refrigerators for 1934 amounted to $105,600,000, or more than 35 per cent of the total revenue for all domestic electric appliances."

Mr. Leslie stressed the increasing importance of the replacement market and also that market created each year by the more than 1,200,000 newlyweds.

Rochester Gas & Electric Co. offers lowered financing charges and extends the monthly payments over a longer period to increase sales of appliances, according to Frank M. Houston, who represented this company at the conference.

"We found it easier to sell an appliance to the average individual at $4 per month over a period of 36 months than it is to sell the article at twice that amount over an 18-month period," Mr. Houston explained.

Selling on this plan, the Rochester Gas & Electric Co. arranged with a local bank to take over collection of accounts, and offered refrigerators, water heaters, and ranges for $2 per month, and washers and ironers for $2.50 per month. Similar financing arrangements were set up for use by dealers.

Sales of electric refrigerators in Rochester during 1935 were between 8,000 and 9,000 as compared with 3,800 sales in 1934, which is indicative of the success of this budget payment plan, Mr. Houston said.

Use of highly selective direct mail campaigns, employing home economists trained in lighting as well as in the use of appliances, and formulating prospect lists from survey cards which meter readers turn in, are three methods which P. H. Powers of the West Penn Power Co., claimed his company found profitable load building stunts.

"West Penn Power Co. stands behind its dealers by actively pushing the idea of a completely electrified home," stated Mr. Powers. "This policy has helped the utility to increase its water heater sales from 71 in 1933, to 200 in 1934, and approximately 400 units in 1935."

Introducing a new note into the conference discussion, R. M. Phelps of Penn Central Light & Power Co. called the sales pilot coach the "most effective sales tool of all."

"When a prospect steps into the coach, 60 per cent of the sale is made," he said. "Our coach operator sold 38 major appliances in five days. During four months a total of 266 major appliances were sold through the aid of the coach."

During the conference, awards for submitting the best Liftop sales during a summer campaign were presented to F. S. Hoefer, W. F. Moses, J. P. Knapp, E. L. Richardson, G. B. Richardson, and O. M. Jackson.

Executives participating in the conference discussion besides the men named included: J. A. Lockhart of Pacific Power & Light Co., M. E. Skinner of Niagara Hudson Power, V. H. Moon of the Middle West Utilities Co., H. P. J. Steinmetz, chairman, sales committee of Edison Electric Institute.

P. B. Zimmerman, general sales manager of General Electric Co.'s specialty appliance and merchandise department, A. M. Sweeney, sales manager of the company's specialty appliance sales division, C. W. Appleton, vice president of General Electric, and H. H. Bosworth, central station section manager, represented the specialty appliance sales department at the meeting.

Other General Electric executives on the program included: G. J. Chapman, J. R. Poteat, C. J. Enderle, Malcolm Bard, A. L. Scaife, J. DeJen, W. E. Landmesser, M. D. Grow, Miss Edwina Nolan, W. M. Timmerman, G. D. Kobick, C. M. Snyder, H. F. Barnes, R. J. Cordiner, D. C. Spooner, Jr., and R. W. Turnbull.

Stunts on Friday the 13th Boost Sales of Denver Store

DENVER—Carnations, gongs, and Friday the thirteenth—effectively combined in a one-day promotion recently—brought a 14½ hour turnover in electric refrigerator sales equal to the total sales of many slow months for the Joslin Dry Goods Co. here.

Keynote of the plan was an inter-department and salesman contest. The day started with the department treating the entire sales staff to breakfast. As soon as they reached the store, the electrical appliance department buyer, H. A. Armbright, pulled a gong, stationed in the middle of the department, 13 times.

For each sale during the day, the gong was pulled once. Each member of the staff was given a red carnation to start the day, to be worn until he completed the first sale. Then he turned it in for a white one.

A $15 prize to the appliance manager whose section showed the biggest volume went to refrigerators, with sales four times the nearest competitor. A $15 prize to the salesman with the largest volume of the day went to a refrigerator salesman. A merchandise prize—the pick of four offered by distributors—went to a man in the same section.

"The drive was designed to get the men to clean up the prospect lists, and complete many deals that were hanging fire," says Mr. Armbright. "It not only worked well on that particular Friday, but sales on the following days were better than the averages of the same days of previous weeks."

The plan was shrouded in mystery during the days preceeding the promotion. An announcement to salesmen, posted on the bulletin board, stated that Friday the thirteenth was to be a "red-letter day," and invited all men to breakfast at a down-town hotel. Details were not revealed until the breakfast.

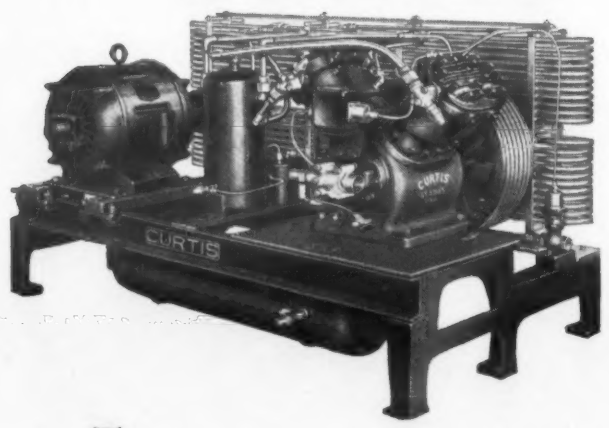
Connelly Dealers Attend 2-Day Convention

SEATTLE—Entire sales force of F. B. Connelly Co., Grunow distributor in this territory, attended a two-day general sales convention here recently.

Kenneth Connelly, vice president and general manager, opened the convention with a discussion of the company's policies of merchandising and distributing household specialties.

Sales plan discussions covered Grunow refrigerators, radios, A.B.C. washers, and Ohio oil-burning heaters.

ONLY **CURTIS** CAN GIVE YOU

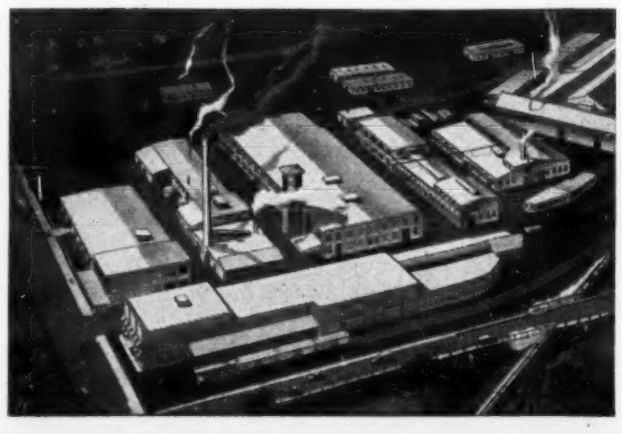


- The Most Complete Line (*65 sizes*)
- Timken Tapered Roller Bearings (*long life*)
- "V" Type Radial Design (*short sturdy crankshaft*)
- Patented "Centro-Ring" Oiling (*Positive Pressure Type*)
- Water Cooled Cylinders and Cylinder Head (*Highest efficiency*)

These features insure highest efficiency, low operating cost and long life.

There is a correct CURTIS Unit for every Commercial, Industrial or Air-Conditioning installation.

Sizes 1/6 H. P. to 15 Tons



CURTIS REFRIGERATING MACHINE CO.
Division of Curtis Manufacturing Company
1912 Kienlen Avenue, Saint Louis, U. S. A.

In Canada
CANADIAN CURTIS REFRIGERATION CO., LTD.
20 George Street Hamilton, Ontario, Canada

Westinghouse

Sets a New Standard of Refrigerator Value!

★ FOR ITS *Golden Jubilee* YEAR ★

Around the World

With George F. Taubeneck

(*Concluded from Page 1, Column 5*)

compartment in these Super Deluxe models, provides forced draft circulation, and purges the compartment of food odors by sucking the air through a chemical absorbent.

6. Rubber grids are furnished with every ice tray to make for ease of ice cube removal. In each of the Super Deluxe models one all-rubber tray is also provided.

7. Styling is by Count Alexis de Sahknoffsky, famous Russian designer whose influence is seen in many of today's motor cars, and who has become popularly known as the leading exponent of streamlining through his drawings of automobiles, boats, and airplanes in *Esquire* magazine. (See picture on center spread.)

8. Prices will be competitive.

9. Advertising will be concentrated on the standard line—of which a great majority of sales are made—rather than on the Super Deluxe line, which has the most dramatic interest.

10. Sales education will be the dominant note of the merchandising program. Eight new positions have been created by the Kelvinator factory for field men whose duties will be confined solely to sales training.

11. Promotion on the Super Deluxe models will be aimed strictly at the replacement market, with the thought that non-owners will be "looking over the shoulder" of present owners. Theme of this advertising will be that the seven million plus electric refrigerators already in use are made obsolete by the advances in these new models.

12. Kelvinator gas ranges, electric water heaters, and an electric teakettle have been added to electric ranges and oil burners as companion lines to Kelvinator refrigeration products.

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Curiosity Satisfied

This multilateral program comes as a climax to an ambitious "teaser" campaign among dealers which Kelvinator has been waging this fall by word of mouth and through the medium of ELECTRIC REFRIGERATION NEWS. The word has gone out to the field that Kelvinator "had something" for 1936; and to those who have demanded proof Kelvinator officials are now answering, like the political candidates who are taking the stump, "look at the record."

In fact, the whole Kelvinator merchandising program for 1936 has been designed to permit prospects to sell themselves. It is proof selling carried out of its logical conclusion; viz., to the point where the prospect sees for himself the answers to his own questions.

The salesman can quickly resolve for the prospect who hasn't put his desires into words just what are the fundamentals of a good refrigerator. Then the prospect can do his own proving. For instance, here is a sample set of "fundamental" questions which the salesman could propound and let the prospect answer:

1. Will it keep food at proper temperatures?

The thermometer is a definite, conclusive answer.

2. Is it economical to operate?

The certificate of low cost of operation answers that.

3. Will the service be dependable?

The five-year "protection plan" removes any doubts on that score.

4. Will it produce plenty of ice cubes, and can they be removed conveniently?

See for yourself by noting the number of ice trays, and the rubber grids in every tray.

5. Is it good looking?

Have a look.

6. Has it basic conveniences which make it easy to use?

Extra breadth of frontal area to help make every corner more easily accessible, interior electric light, sliding shelves, five-purpose temperature control, vegetable crisper, utility basket, double-depth tray, and deep defrosting dish.

7. Is the price right?

No major manufacturer will have lower prices on comparable sizes, according to Mr. Burritt.

8. Is there a good manufacturer behind the product?

Kelvinator is the oldest manufacturer in the industry, and one of the biggest.

9. Will it dehydrate and odorize foods, as the ice men claim?

In the Super Deluxe models, the two compartments permit a non-dehydrating temperature for the food compartment, and forced draft circulation over a chemical absorbent removes the odors.

• • •

Merchandising Plans

During the week of Feb. 17 Kelvinator dealers all over the land will conduct a simultaneous showing of the new models. By that time the factory expects to have every dealer stocked with floor models, as well as banners, flags, decorations, and all the paraphernalia for attracting attention and bringing crowds into the stores.

On Tuesday of that week the *Saturday Evening Post* will come out with a five-color five-page advertisement similar to the one in the current issue of ELECTRIC REFRIGERATION NEWS.

This advertisement will be repeated in the March 16 issue of *Colliers'*, and will be followed up by campaigns in leading women's magazines. Kelvinator's standard line will receive the benefit of the bulk of Kelvinator advertising.

Pointing directly at the replacement market, advertising on the Super Deluxe line will be placed in the so-called "class magazines," such as *Fortune, Esquire, Time, The New Yorker,* and *House and Garden.*

These advertisements will be addressed "To the Seven Million Owners of Electric Refrigerators," and will be signed "Kelvinator, Your Next Refrigerator."

• • •

Animated Displays

This season Kelvinator is offering an innovation in window display service by making *all* of its displays animated. Dealers who sign up for the service will be given an electric motor to run these displays.

Also to be provided dealers are floor background displays. These have been designed to attract attention to the Kelvinator line when it is shown alongside the refrigerators of other manufacturers on the floor of a multiple dealership.

Among the sales training helps which have been developed are a home study course for retail salesmen, a plan book for the use of wholesale men in conducting dealer meetings, a textbook for sales classes, charts, and slidefilms.

• • •

Kelvinator Convention

Because of the blessed imminence of our sailing date from San Francisco, we can only attend one session of the Kelvinator convention in Detroit Jan. 8 to 10. But HENRY BURRITT, vice president in charge of sales, has told us what his plans for the convention are—and, knowing Mr. Burritt, we'll lay you 10 to 1 that those plans materialize right down to the last period. Here's what's going to happen:

With bands playing, banners flying, and splotlights focused, Kelvinator Corp. officials will present the 1936 line of Kelvinator products and their sales and advertising programs to nearly 1,000 distributors, members of their selling organizations, and representatives of major utility companies, from the stage of the Wilson theater.

Produced like a legitimate drama with music, lights, scenery, and a cast of characters known to the audience, the convention program will run two and a half days. Twenty-eight scenes will be necessary to introduce the new models and the merchandising plans.

• • •

Around the Tables

Opening scene of the convention, which came after an hour of band music and group singing, had the officials and department heads of Kelvinator grouped about a conference board table, similar to the scene shown in the first of the recent series of Kelvinator advertisements in ELECTRIC REFRIGERATION NEWS, entitled "Big Things Are Happening at Kelvinator."

GEORGE W. MASON, president and chairman of the board, made the opening talk to the distributors and other delegates, welcoming them to the convention. Mr. Mason declared that he believes 1936 will be the greatest year in the electric refrigeration industry, and that Kelvinator has made plans to make the most of the opportunity.

After Mr. Mason's welcoming talk, he asked each person seated around the conference board table to "say a few words." Those who rose and shone were:

H. G. PERKINS, vice president; G. M. EVANS, vice president in charge of manufacturing; E. HEITMAN, chief engineer; C. C. THOMAS, cabinet engineer; ALEXIS DE SAKHNOFFSKY, consulting designer; E. A. SEIBERT, service department manager; V. J. McINTYRE, domestic sales manager; G. STRELINGER, general assistant to the vice president in charge of sales; J. A. HARLAN, commercial sales manager; S. C. MITCHELL, director of advertising and sales promotion; V. C. WOODCOX, Detroit manager of Geyer, Cornell & Newell, Inc.; H. W. NEWELL, vice president, and B. B. GEYER, president of the same advertising firm; H. W. BURRITT, vice president in charge of sales; and Mr. MASON.

• • •

Quoting Mr. Burritt

Following the dialogues between Mr. Mason and the other officials, the board table scene faded to Mr. Burritt, who then stepped forward to make his opening talk of the convention, as its director. Declared Mr. Burritt:

"I'd like to say again that big things have happened at Kelvinator, and that our sales objectives are correspondingly big. Last year was our biggest year, yet this year we have the opportunity to increase our business by at least 100,000 domestic and 10,000 commercial units, representing $20,000,000 worth of business at retail prices.

"At the factory we have been thinking and working overtime for months on how to do things on a bigger and better basis. Not a single request to spend money to improve our plans has been refused. Definite commitments have been made by Kelvinator Corp. based on the idea that we will secure this added business in 1936. They include:

"1. One-half million dollars have been spent on plant facilities.

"2. Prices of our models have been predicated on the estimated production of 100,000 more domestic and 10,000 more commercial units than we sold in 1935.

"3. Materials have been contracted for on this basis.

"4. Advertising space has been bought on this basis—a program that is going to rock the entire refrigeration industry.

"Not for a long time, if ever, will we have the opportunity that we have today, and there is only one way to cash in on this opportunity. That is for all of us—field people and factory officials alike—to get the same viewpoint and this same objective of *doing big things.*"

After Mr. Burritt's speech, V. J. McIntyre, domestic sales manager, presented the new 1936 line of Kelvinator household electric refrigerators. The models were exhibited on a stage which revolved slowly as Mr. McIntyre talked about each of the new features and the new selling plans.

During the afternoon of the first day of the convention, the advertising and sales promotion program for the year is to be outlined by SAM MITCHELL, director of advertising and sales promotion, assisted by B. B. GEYER, president, and H. W. NEWELL, vice president, of Geyer, Cornell & Newell, Inc., Kelvinator's new advertising agency.

• • •

Prize Winners

Seventy-five prize-winning wholesale men from all over the country will be wined, dined, and honored at a special banquet Wednesday evening in the Grand Ballroom of the Book-Cadillac hotel convention headquarters.

Prizes are to be awarded to these wholesale men and each will be personally handshook, and congratulated verbally, by Mr. Mason.

After the presentations, a special stage show is coming up. (We forgot to ask, but no doubt it will be a CORINE MUER production.)

The third session of the convention on Thursday morning (if the delegates wake up in time) is to be opened by Mr. Burritt, after which VANCE WOODCOX, Detroit manager of Geyer, Cornell & Newell, Inc., and former Kelvinator advertising and sales promotion manager, is slated to explain, elucidate, and expand upon a sheaf of colored charts showing, we venture to predict, how millions of advertising "impressions" will be distributed in red, blue, and green buying areas, and how these will be tied up with point-of-sale identification.

• • •

Companion Products

Then Mr. Burritt will discuss Kelvinator's attitude toward allied products, stating that the corporation believed it would be helping the distributors and dealers by developing and manufacturing products that could be sold as allied lines with electric refrigerators and other Kelvinator products.

Mr. Strelinger will return to point with pride at three new products which Kelvinator has brought out, a line of gas ranges, an electric hot water heater for the home, and an electric teakettle.

C. M. ARMSTRONG, vice president of Refrigeration Discount Corp., a subsidiary of Kelvinator Corp. is to speak to the delegates at the convention about ReDisCo's new rental purchase rate. He will be followed on the program by E. A. Seibert, service department manager, who is to explain the details of the new five-year service policy.

The morning session will close with the presentation of a "Field Organization Act," which will portray how Kelvinator's field organization is developed and directed. Mr. Burritt, Mr. McIntyre, and others are to act in this act.

Kelvinator commercial equipment, including air conditioning and automatic heating, will monopolize the spotlight at the Thursday afternoon session, which is to be under the direction of "DOC" HARLAN, commercial sales manager. The entire commercial line will be presented by F. N. PATTISON, assistant head of the standard commercial division.

E. R. LEGG, manager of the national direct sales division; A. H. REINACH, staff head in charge of standard commercial; and H. A. DAHL, Kelvinator district manager at Chicago, are also scheduled to take part in the commercial program.

At the final session of the convention on Friday morning, Mr. Strelinger will advise the assembled distributors as to best methods of handling preshowings of the new 1936 lines. He will suggest his notions on how the distributor can get the dealers into his showroom, how to select proper dealers, and how to hold a spring meeting.

• • •

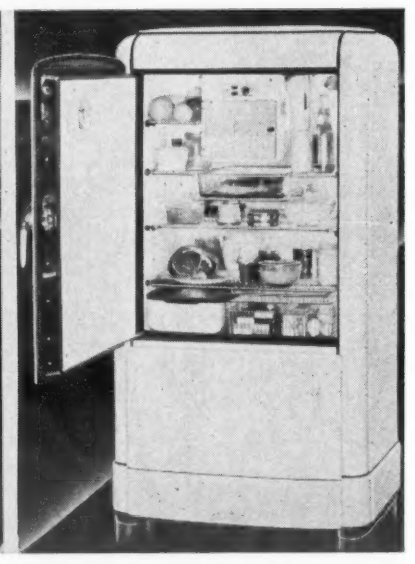
Adjourn to Factory

After the convention, the distributors, sales managers, sales promotion managers, advertising managers, personnel managers, wholesale men, and the utility company representatives are to be transported to the Kelvinator factory, where they will observe the actual construction of the products which they will have seen displayed on the stage.

And after that Mr. Burritt will probably be around with some order blanks, a well-filled fountain pen, and a winning smile.

New Models & Specifications

Model SD7-36



Model PK7-36

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Model	Storage Space (Cu. Ft.)	Shelf Area (Sq. Ft.)	Ice Cubes	Lbs. of Ice	Exterior Dimensions Height	Depth	Width
K7-36	7.18	14.81	120	13.5	61	26¼	32⅛
K6-36	6.16	12.79	80	9.0	58⅝	26¼	29⅞
K5-36	5.16	12.06	80	9.0	55¾	26¼	28⅜
K4-36	4.15	10.37	40	4.5	49⅞	25⅝	24
SD7-36	7.04	13.80	176	21.0	61¼	28¼	32⅛
SD9-36	9.20	18.51	187	23.5	66¾	28¼	34½
SD13-36	13.12	25.92	240	26.0	36¾	28½	48
SD17-36	16.79	31.86	280	30.5	73¾	28½	50¼

• • •

Models PK7, PK6, and PK5 are the same as the K7, K6, and K5, with the exception that their exterior finish is in porcelain. Exterior finish of the K models is in Superlux. Interior finish is porcelain in all models.

The standard Kelvinator series has cabinets in porcelain (in the PK series) and Superlux enamel (in the K series).

Temperature control provides fingertip control of fast-freezing, vacation-setting, start, stop, and defrosting, as well as 12 additional freezing speeds above and below the normal setting.

An oversize freezing unit, centered in the cabinet, provides ample cold, and allows plenty of space for tall bottles or containers. The unit is finished in porcelain, inside and out, for sanitation and easy cleaning.

Ice cube trays are equipped with rubber grids, making cubes easily accessible. An extra-large, heavy defrosting tray is also usable as a storage place for fresh meats.

Other convenience features include a vegetable crisper, equipped with a serving tray top of black bakelite; a utility basket, to keep butter, eggs, cheese, and smaller articles within convenient reach; a sliding shelf, which pulls out for easy access to articles in the back of the refrigerator; a sorting shelf; porcelain interior; and automatic electric light, operating when the cabinet door is opened.

Features of the Kelvinator Super Deluxe series include dry cube trays, a light downward pressure on the handle releasing one cube or a trayfull with little effort; and double-depth trays, for frozen salads, desserts, or extra ice cubes.

Included with the models are also a pastry set, consisting of a covered china bowl and a refrigerated rolling pin; a water pitcher, which cools drinking water or fruit juices, and saves space; below-freezing storage, which keeps meat, fowl, frozen foods, or ice cubes safely until they are needed; a "thrift drawer"—three covered china dishes for left-overs; vegetable crisper; sliding fruit basket; and the food wheel, consisting of five covered glass dishes set on a revolving metal frame that pulls out for convenience.

Grunow Refinancing Plan Is Submitted to Creditors and Court

(*Concluded from Page 1, Column 1*)

Mr. Grunow will assign to the company his rights to a contract with Carrier Engineering Corp., and his interests in patents, licneses, and applications.

A new company, which, under the plan will succeed the old, will issue some $1,500,000 of 5 per cent convertible preference shares of $10 par value.

This stock will be given to all unsecured creditors holding claims in excess of $10 in discharge of their claims, dollar for dollar. What is left of this preferred stock after such claims have been paid may be sold to provide additional working capital.

The preferred stock will pay 5 per cent cumulative dividends, is redeemable on any dividend payment date at $10 per share plus accumulated dividends, and may be converted to common stock.

Holders of common stock will receive new stock on a share-for-share basis. There are 229,455 shares of common stock outstanding on an issue of 500,000.

Twenty-five per cent of the net earnings of the debtor during each fiscal year are to be set aside as a sinking fund for the protection of the new first mortgage loan and the holders of preference shares. Until all preference shares are retired or converted no dividends may be declared on common shares without the consent of the holders of a majority of the preferred stock outstanding.

Without the consent of the RFC, no dividends may be paid on preferred stock unless, after such payment, the current assets will amount to at least four times the current liabilities.

It is contemplated that the indebtedness due Manufacturers' Finance Co., amounting at the date of institution of reorganization proceedings to $347,906.65, will be liquidated by the collection of accounts receivable.

The plan provides that management of the new company will be subject at all times to the approval of the RFC. It is contemplated that Mr. Grunow will continue as president of the company.

Holders of preferred stock will be entitled to elect a majority of the board of directors, and the directors in turn will create the office of executive vice president and elect to such office a person approved by the RFC.

Along with the plan of reorganization, a balance sheet of the company as of Nov. 19, 1935, was submitted, showing a deficit of $2,085,741. A pro forma balance sheet as of the same date, incorporating the changes under the plan of reorganization, shows a working capital of more than $800,000.

Also submitted was an analysis of the audited statement of the company for the year ended July 31, 1935, made by James O. McKinsey & Co., which shows that of total net sales of $10,679,585, the company had a net loss of $1,736,057.

Of the total net sales for the last fiscal year, $5,257,000 was done on refrigerators, the analysis shows.

Ranco Starts Building New Factory & Office

(*Concluded from Page 1, Column 2*)

deep, provide a foundation for the structure. Lower construction is concrete blocks, stuccoed, with concrete sills cast in place, and with a brick parapet above the window course.

The building will house the general offices, laboratories, and the complete manufacturing plant of the Ranco organization. The back of the plant is constructed of steel siding units and glass. Additions can easily be made to the structure, by simply unbolting the back wall and moving it to any distance desired.

Freon Prices Reduced & Cylinder Plan Changed

(*Concluded from Page 1, Column 4*)

purchase if the value of the cylinders traded in is equal to or less than the new purchase.

Distributors who desire cash for their empty containers may still return them to Carney's Point and get the money covering their cost.

Two new warehouses for Freon are to be opened March 15: the Central Warehouse Co. at 1627 Fort St., Detroit; and the Arrow Van and Storage Co., Phœnix, Ariz.

Diesel School Opens Branch In Kansas City

KANSAS CITY—Midwest branch of the Diesel Power United Engineering Schools was opened at 1520 McGee St., here recently. Courses in air conditioning and refrigeration are projects of this school.

Headquarters of the Diesel Schools is in San Francisco.

Xmas Drive Winds Up Year's Promotion by Niagara League

BUFFALO—Winding up its activities in the promotion of sales of electric refrigerators and appliances during 1935, the Electrical League of the Niagara Frontier, with headquarters here, sponsored a 20-page special supplement in a local newspaper as part of its Christmas sales drive.

Headed "If Mothers Wrote Santa Letters," this supplement played up refrigerators, radios, ranges, and appliances as electrical gift suggestions. Other material used in the campaign included window display cards, posters, truck banners, and bumper signs, all reiterating the idea of giving electrical gifts.

One full page devoted to electric refrigeration contained illustrations of three refrigerator models, a dealer advertisement, and two columns of copy in which the selling points for electric refrigeration were set forth. Other insertions contained smaller cuts and copy arrangements featuring refrigerators.

Among other activities sponsored by the League during the year past was a Spring Refrigeration Show, conducted in cooperation with the Buffalo Real Estate Board and the Housing Committee. Complete electrification of the "Little White House on the Square," chief feature of the show, was done by League members. The house contained an all-electric kitchen.

Electric refrigerators were also shown by League members in the electric show held here in October. Attendance at this show was said to be the largest at any event of its kind held on the Niagara frontier.

TVA Seeks to Move Into Kentucky

LOUISVILLE—Entrance of the Tennessee Valley Authority into Kentucky, through development of power and navigation dams on the Tennessee river, is not only probable, but is one of the main objectives of the federal government, TVA Director David Lilienthal told an audience here recently.

Describing TVA's program in promoting the use of water, preservation of land and soil, the wider use of electricity, Mr. Lilienthal said that TVA was directed to make the Tennessee river navigable from Knoxville to Paducah, a distance of 648 miles.

By selling the power generated at TVA hydro-electric plants, Mr. Lilienthal said, the government expects to receive sufficient return to make its program self-supporting, and in course of time to repay the investment in navigation and flood control works.

Private companies operating in the Tennessee Valley are showing substantial progress as a result of the promotional rate which TVA has put into effect, the speaker declared. Tennessee Electric Power Co., in the heart of the TVA area, is having the "biggest year of its history," he added.

This is conclusive proof, Mr. Lilienthal said, that the TVA program will not destroy public utilities.

Construction of a dam on the Tennessee river, nine miles downstream from Guntersville, Ala., has been authorized by the authority, on the recommendation of Carl A. Bock, TVA assistant chief engineer, that this site should be the next to be developed on the authority's river improvement program.

Cost of the dam will be $29,000,000, with no plans at present for any additional power installations.

Work on Wheeler Dam is progressing on schedule, although construction was halted for a time by low water which hindered the delivery of concrete materials. The first of 60 radial steel floodgates, 40 by 14 ft., is being installed, erection of the first 45,000-hp. turbine has started, and contract for an additional similar unit let to Baldwin-Southwark Corp., Philadelphia, for $315,500.

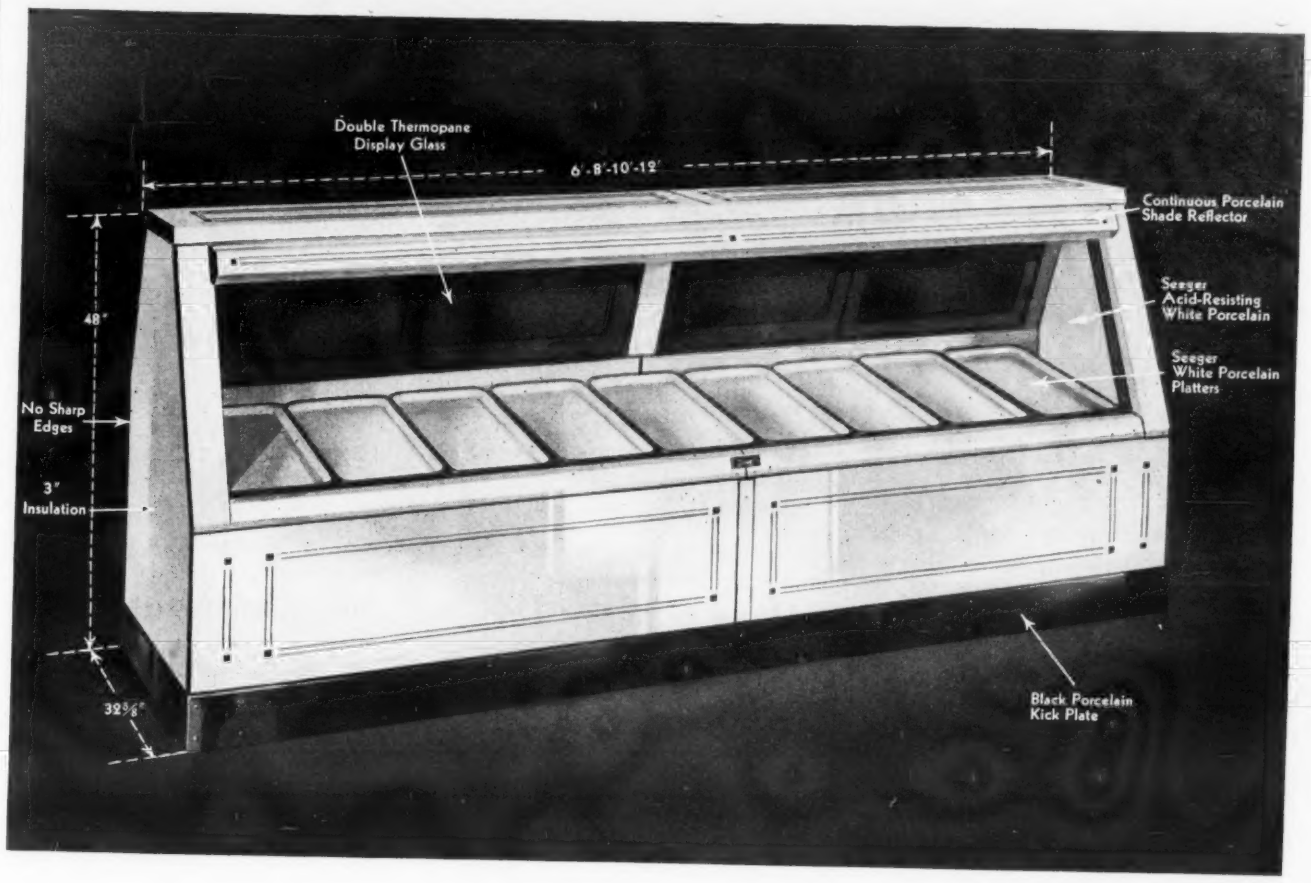
Of the corresponding 36,000 kva generators, one will be delivered early next year and a contract for the second has been awarded to General Electric Co. for $415,000.

Memphis, Tenn., has signed a 20-year contract for TVA power, and facilities are expected to be ready within nine or 10 months. Contracts with other cities, forming a ring in western Tennessee, are under negotiation at present.

W. W. Miller of G-E Dies In Schenectady

SCHENECTADY—William W. Miller, manager of General Electric Co.'s industrial department since 1929, died here Dec. 22 following an operation.

Mr. Miller had been connected with the General Electric Co., since 1897. He occupied positions in the armature and coil winding, power and mining, railway engineering, and industrial departments.



SERIES 9

Seeger
SAINT PAUL

Double-Duty Display Case

New Type Finned Coils
Hardwood Service Shelf
No Sharp Edges
3-Inch Insulation
Seeger Black Porcelain Kick Plate
Double Thermopane Display Glass
Seeger White Porcelain—Black Design
Seeger White Porcelain Platters
Seeger Acid-Resisting White Porcelain Interior
Continuous Porcelain Shade Reflector
48-Inches in Height

LOW COST too!

Series 9 Display Case by Seeger fills the need of a LOW PRICED DOUBLE-DUTY DISPLAY CASE—built to Seeger Standards. Modern with large display area—Sturdily built for hard usage—Cost of operation surprisingly low.

Dealers and Distributors of Electrical Refrigeration will find SERIES 9 easy to sell—because it is a wonderful value, and a definite producer of profits.

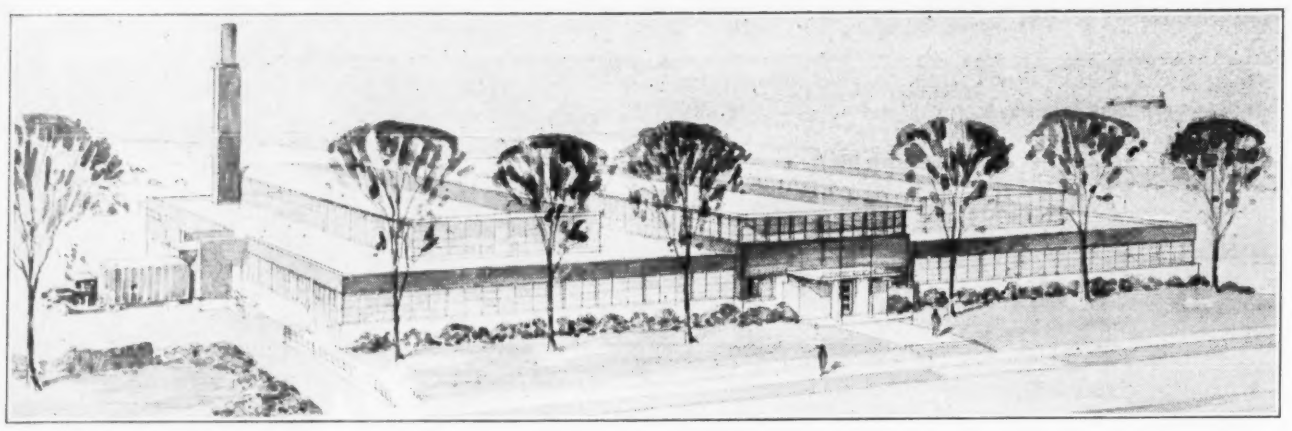
Write for today's Prices

SEEGER REFRIGERATOR CO.
Saint Paul, Minnesota

New York, N.Y. Boston, Mass. Chicago, Ill. Los Angeles Calif. San Francisco, Calif.

Special Representatives:
Meyer Smith Co., Buffalo, N.Y. Seeger-Philadelphia, Inc., Philadelphia, Pa.

New Plant Where Rancostats Will Be Made



Construction which affords a maximum utilization of daylight illumination marks this new plant in Columbus, Ohio, which will soon be occupied by the Automatic Reclosing Circuit Breaker Co. (See news article on page 1.)

Trust Co. Reports 476 Loans to Distributor

PITTSBURGH—The Colonial Trust Co. of Pittsburgh has reported to the Federal Housing Administration that it has financed 476 notes, amounting to $129,000, under FHA's modernization credit loan program for one account, Ochiltree Electric Co., distributor of electrical appliances in this territory.

Negotiations are under way with the company for an additional 130 notes, the bank reports. Of the total loan, $7,500 has been repaid, and only five notes are in default, none of them sufficiently to warrant a claim on their insurance reserve, officials of the bank say.

Loans by the bank total $178,300, of which $19,085 has already been repaid. The rest is being repaid at the rate of about $7,000 per month.

"GENUINE DETROIT"
HEATING, REFRIGERATING AND AIR CONDITIONING CONTROLS
DETROIT LUBRICATOR COMPANY
DETROIT, MICHIGAN, U.S.A.
Canadian Representative—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, Montreal, Toronto, Winnipeg

BRUNNER
Send for the New
REFRIGERATION CATALOG
Eight Models of Compressors
Forty-one Models of Highsides
from 1/6 H. P. to 15 H. P.
BRUNNER MANUFACTURING CO.
UTICA, N. Y.

Daily Bulletins Take Place of Meetings At Bee, Inc.

ALLENTOWN, Pa. — To replace morning sales meetings and to build up a cooperative spirit throughout the entire organization, a daily sales bulletin is issued at the Bee, Inc., dealership here, under the direction of Clarence W. Guth, sales manager.

Containing sales hints, suggestions, inspirational quotations, facts concerning policy or price changes and additions to the line, this bulletin tends to boost up sales efforts without any of the usual "pep" talks common to papers of its kind, Mr. Guth explains.

Copy for the sheet is dictated during the day. At 3 o'clock a stencil is made, and the five-by-eight inch paper is mimeographed and distributed to executives and members of the selling force.

Each issue is devoid of all "padding"; only pertinent messages which the firm wishes to get across to its personnel in advance of the weekly sales meeting are printed, regardless of the amount of white space which may be left when the news is small, claims Mr. Guth.

This method of contacting the salesmen was substituted for the daily sales meetings six months ago. Salesmanager Guth adopted the bulletin plan because he believes that morning meetings hinder the men from getting an early start on their work, and meetings held in the evening do not get the salesmen's full attention.

In the news sheet, employees are urged to push certain lines, not by the usual lets-get-behind-model-X sales talk, but by suggestions. Exemplifying this, is an announcement that "the company is in a position to assure prompt delivery on the X line, and that they may inform their customers."

"This method," says Mr. Guth, "makes the salesman think that other members of the sales crew must be pushing the mentioned line strongly, so he figures it must be a sure-selling product, and emphasizes it when he contacts prospects."

Westinghouse Fete Marks 50th Year

EAST PITTSBURGH—In commemoration of its 50th birthday, on Jan. 8 Westinghouse Electric & Mfg. Co. will hold a tremendous "family" gathering for the 12,000 employes in its Pittsburgh district with simultaneous meetings of Westinghouse employees in every important Westinghouse factory and office in the country.

Specifically, the occasion celebrates the 50th anniversary of the granting of the charter to the Westinghouse Electric Co.

Feature of this "family" gathering of 40,000 employees is that the complete Pittsburgh program will be broadcast to all of the other meetings in plants and districts over Westinghouse's own short wave transmitter W8XK (on both 25.26 and 48.83 meters) and will also be picked up by international representatives and friends in foreign countries. There will be no time limits and the program will probably run from 8 to 10:30 p. m.

At Pittsburgh, the meeting will be addressed by Chairman A. W. Robertson, President F. A. Merrick, and other national figures from outside the company. These speakers will review the contributions that Westinghouse has made to the progress of industry and present a forecast of the future.

New York Frigidaire Branch Moves

NEW YORK—Frigidaire Sales Corp. of this city has moved into new quarters at 224 W. 57th St., formerly the General Motors Bldg., where it will occupy the ninth and tenth floors. The tenth floor has been completely remodeled and turned into an auditorium for sales promotional meetings. Offices are on the ninth floor. Both floors are completely air conditioned.

Newark Co. Buys Service Division of Binder Co.

NEWARK—The Refrigeration Service Co., Inc., here, recently purchased the service division of the T. W. Binder Co.

Emil Schade, president of Refrigeration Service Co., Inc., was previously service engineer with the Copeland Products Co., and with the T. W. Binder Co.

Sales Idea of the Week

By V. E. (Sam) Vining, Director of Department Store Sales, Westinghouse Electric & Mfg. Co.

A number of years ago—

When I was a young fellow seeking my particular path to fame and fortune—

I got a job in a dry cleaning "joint" in Cincinnati. I say "joint" advisedly because it was located in the basement of a down town office building and our main business consisted of pressing pants while the client waited behind a flowered curtain in a bathrobe which was two sizes too large, and a pair of slippers big enough to accommodate Tug Boat Annie's Narcissus.

I ran a "Hoffman" machine—

Pushed levers, turned on steam—patted wrinkles out of pants from 7:30 in the morning until 6:00 at night. A coat or a vest was a relief and a godsend.

The machine faced a window and from the earliest hours until closing time there was always a group of men waiting on the sidewalk—

Watching—watching me—and studying my every move, with an intentness which could only be complimentary to my skill. . . .

They swayed as I pushed the levers—they puffed when I turned on the steam—sighed with satisfaction when the wrinkles passed away.

Then I woke up. Fifty per cent of these men were carrying little black portfolios.

These little black portfolios fascinated me.

It dawned on me—these men were salesmen—and what a delightful business theirs must be.

Next week I, too, bought a little black portfolio.

But somehow I have felt cheated during all these years. I have watched steam shovels dig holes, garage mechanics fix automobiles, policemen argue with truck drivers, fire engines answer false alarms, wash women hang up clothes. . . .

But, I have never found another window in which pants were publicly pressed.

Bride's School Teaches Proper Way to Use Refrigerators

NEW YORK CITY—Through use of two Electrolux refrigerators installed as part of the class room equipment, and through special instructions, students at the Bride's School, at 133 East 65th St., here, will learn the important role which automatic refrigeration plays in successful home management.

Devised to train brides-to-be and young matrons how to manage and to supervise the management of their homes, this school was opened here recently by Scientific Housekeeping, Inc., headed by Mrs. Richard Boardman.

Courses include lessons in cooking, nutrition, values, marketing, menus, budgeting, bookkeeping, how to plan and serve meals, and similar household topics.

Staff of the school is comprised of experts in cooking, dietetics, and household management. Special lectures on refrigeration are to be given by Miss Jane Tiffany Wagner, Electrolux home service director, and Mrs. Richard Boardman, head of the school.

Maloney Named Mgr. Of W. L. Thompson Co.

BOSTON—J. P. Maloney has been appointed general manager in charge of all operations of W. L. Thompson, Inc., General Electric distributor here, reports W. L. Thompson, president of the company.

Mr. Maloney has been sales manager of the firm for the past year, and retail sales manager for the past three years.

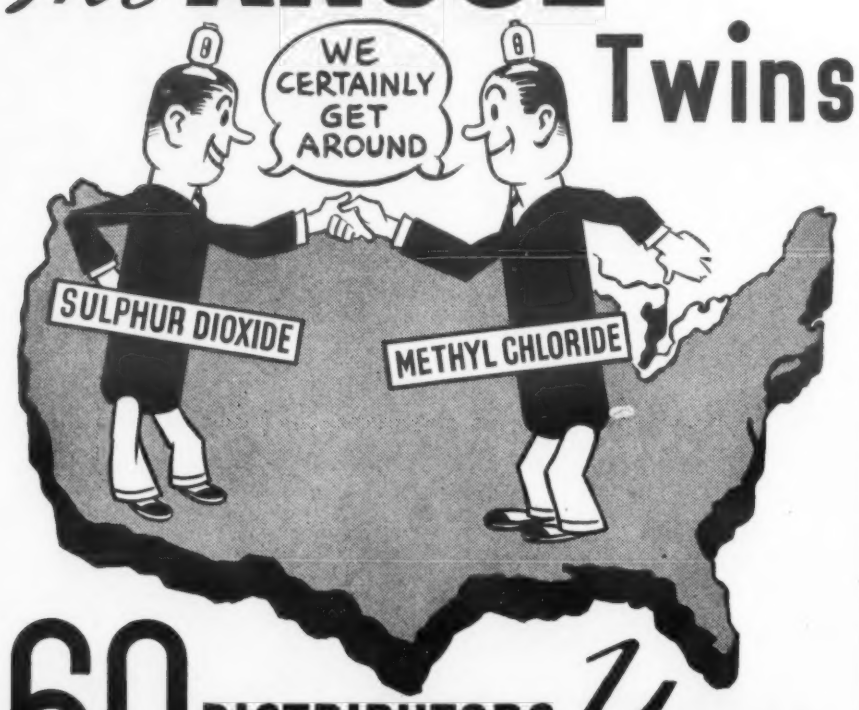
Rosen Is Host at Party For Dealer Group

PHILADELPHIA—Raymond Rosen, Kelvinator distributor here, was host to more than 100 members of his dealer organization at a party held Jan. 3, 4, and 5 at the Ritz Carlton hotel in Atlantic City.

Bullard Furniture Store To Sell Frigidaire Line

NEW HAVEN, Conn.—The Bullard Co., furniture store here, is now handling the Frigidaire line of household electric refrigerators.

The ANSUL Twins



60 DISTRIBUTORS TO SERVE You

No matter where you are located there is an Ansul warehouse nearby carrying complete stocks of Ansul *analyzed* Sulphur Dioxide and Methyl Chloride. Write today for the location of the nearest distributor.

ANSUL CHEMICAL COMPANY
MARINETTE » » » » » WISCONSIN

"Built By Universal Cooler"

In the modern Ice Cream store with fixtures supplied by a leading fixture manufacturer, you will usually find that the refrigerating machine was "Built by Universal Cooler".

Universal Cooler Condensing Units are especially adaptable to low temperature refrigeration. Thousands of them are in constant use . . . assuring dependable performance in ice cream freezers, ice cream cabinets, hardening cabinets, ice cream serving equipment, Frosted Food cases, and many other applications.

When a customer buys a fixture from any of our National Accounts he knows that he is getting a fully factory-engineered job.

"Built By Universal Cooler" means Precision, Quality, Dependability

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN BRANTFORD, ONTARIO

14 YEARS MANUFACTURING HOUSEHOLD AND COMMERCIAL EQUIPMENT

Sales Figures

Exports of Electric Refrigerators

October, 1935, Shipments Reported by the Bureau of Foreign and Domestic Commerce, Washington, D. C.

	Electric Household Refrigerators Number	Value	Electric Commercial Refrigerators Up to 1 Ton Number	Value	Parts for Electric Refrigerators Value
Austria	19	$ 1,599	4	$ 429	$ 748
Belgium	16	1,247	...	...	3,946
Bulgaria	1	73	...	...	6
Czechoslovakia	12	972	...	...	2,944
Denmark	...	...	7	1,367	2,836
Finland	4	333	...	...	1,645
France	1,109	70,237	15	1,276	15,210
Germany	1	191	...	...	575
Gibraltar	1	75	...	...	...
Greece	8	861	...	...	...
Irish Free State	...	...	6	922	464
Italy	1	140	...	...	1,834
Malta, Gozo & Cyprus	...	...	...	...	20
Netherlands	39	4,041	25	2,991	7,254
Norway	5	403	14	2,320	3,789
Poland & Danzig	...	...	1	240	52
Portugal	2	231	...	...	100
U.S.S.R. (Russia, Europe & Asia)	9	707	...	...	1,045
Spain	33	5,183	1	400	1,389
Sweden	65	4,780	...	...	9,159
Switzerland	4	80	...	...	8,813
United Kingdom	361	21,572	185	11,289	23,978
Canada	52	4,555	17	2,132	21,601
British Honduras	3	361	...	...	...
Costa Rica	10	956	...	...	37
Guatemala	21	1,834	1	90	8
Honduras	8	744	...	...	122
Nicaragua	6	481	...	...	188
Panama	161	15,316	19	2,394	16,644
Salvador	13	1,343	...	...	163
Mexico	275	22,674	7	1,061	8,379
Newfoundland & Labrador	1	133	...	...	4
Bermuda	20	1,894	2	816	260
Barbados	20	1,385	1	148	41
Jamaica	11	773	...	...	108
Trinidad & Tobago	43	2,752	4	427	92
Other British West Indies	8	646	...	...	285
Cuba	107	11,564	13	2,547	5,027
Dominican Republic	30	2,696	...	...	16
Netherland West Indies	48	4,173	4	465	391
French West Indies	30	3,248	...	...	67
Haiti, Republic of	63	5,069	2	652	69
Argentina	281	15,150	54	5,778	13,957
Bolivia	1	170	...	...	...
Brazil	1,868	114,441	14	2,146	12,923
Chile	84	7,045	5	2,364	325
Colombia	261	20,690	2	170	1,498
Ecuador	3	286	...	...	68
British Guiana	8	792	...	...	321
Surinam	8	737	...	...	142
Paraguay	12	1,079	...	...	...
Peru	47	4,634	4	514	282
Uruguay	66	5,734	...	...	1,056
Venezuela	158	14,005	6	767	861
Aden	15	1,509	...	...	69
British India	124	10,437	3	449	7,782
British Malaya	126	12,031	2	298	775
Ceylon	36	2,780	...	...	776
China	23	631	...	...	239
Netherland India	126	10,726	12	2,197	1,505
French Indo-China	81	8,310	...	...	168
Hong Kong	43	3,108	1	331	642
Japan	2	253	...	...	1,096
Palestine	104	8,180	58	6,530	4,409
Philippine Islands	58	5,851	12	2,386	2,063
Syria	...	...	1	164	452
Turkey	24	1,961	1	190	292
Australia	456	33,955	3	375	17,429
British Oceania	3	342	...	...	...
French Oceania	12	1,237	...	...	174
New Zealand	904	71,685	86	8,104	5,473
Belgian Congo	24	2,098	...	...	22
British East Africa	9	680	...	...	124
Union of South Africa	3,542	297,434	290	28,075	56,505
Other British South Africa	43	3,597	1	263	326
Gold Coast	36	3,238	...	...	280
Nigeria	5	698	...	...	53
Other British West Africa	...	...	1	136	...
Egypt	32	3,360	3	404	515
Algeria & Tunisia	10	1,258	4	860	282
Madagascar	5	513	...	...	...
Other French Africa	10	1,130	5	242	101
Italian Africa	...	...	...	...	40
Liberia	2	260	...	...	...
Morocco	3	235	2	239	846
Mozambique	314	26,809	...	...	62
Other Portuguese Africa	1	50	...	...	...
Canary Islands	6	540	...	...	191
Other Spanish Africa	4	407	...	...	22
Total	**11,600**	**$895,388**	**898**	**$94,948**	**$273,455**
Shipments to Hawaii	354	30,119	9	1,934	2,207
Puerto Rico	105	11,469	6	3,990	1,971
Virgin Islands	4	439	1	245	98

14 Nema Members Give State Distribution For November

The following report of sales by states for November, 1935, was made by 14 Nema companies.

States and Territories	Quantity of Household Low Sides
Alabama	351
Arizona	52
Arkansas	28
California	3,247
Colorado	59
Connecticut	510
Delaware	31
District of Columbia	33
Florida	2,172
Georgia	436
Idaho	24
Illinois	2,689
Indiana	1,304
Iowa	263
Kansas	435
Kentucky	601
Louisiana	464
Maine	89
Maryland	408
Massachusetts	2,037
Michigan	2,611
Minnesota	291
Mississippi	12
Missouri	1,390
Montana	34
Nebraska	292
Nevada	29
New Hampshire	96
New Jersey	2,622
New Mexico	51
New York	6,753
North Carolina	306
North Dakota	26
Ohio	4,192
Oklahoma	423
Oregon	156
Pennsylvania	4,053
Rhode Island	230
South Carolina	298
South Dakota	37
Tennessee	371
Texas	1,406
Utah	81
Vermont	13
Virginia	276
Washington	611
West Virginia	220
Wisconsin	576
Wyoming	17
Total United States	**42,706**
Canada	749
Other Foreign (Including U. S. Possessions)	9,580
Total for World	**53,035**

Crosley Dealer Auctions Off Exhibit Display

SAN DIEGO, Calif.—Copying his name sake, Crosley dealer U. S. Grant put strategy behind a sales campaign in connection with his display of refrigerators, radios, and appliances, at the Appliance Show held here recently, and got approximately 10,000 new prospect names for his efforts.

His plan was to auction off all the appliances in his booth on the last night of the show. To open the bidding to all who visited his booth during the show, rather than just those who came on the last night, each guest at Grant's booth was given a slip to write the amount he would bid for any appliance, and his name and address.

Final night the bids were examined and the appliances went to the person whose bid was highest.

"This plan not only gave Dealer Grant a large number of prospect names, but also information on what kind of an appliance each prospect was interested in," Paul W. Bialkowsky, Crosley district manager commented.

220,000 Refrigerators Installed in Chicago Homes, Survey Shows

CHICAGO—There are approximately 220,000 electric refrigerators in use in Chicago homes, according to a survey on electrical appliances recently conducted by Prof. L. M. McDermott, head of the marketing department of DePaul University's College of Commerce for the Federal Power Commission.

On the basis of the number of wired homes reported in the 1935 Refrigeration and Air Conditioning Market Data Book, this would bring the market saturation in Chicago to just about 30 per cent.

Prof. McDermott estimates that there are 600,000 radios in use in Chicago, bringing the saturation to 93 per cent.

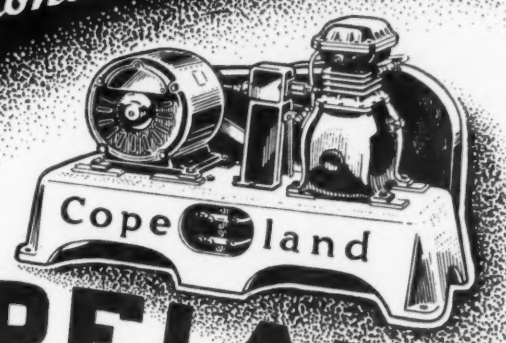
Number of washers in use in Chicago homes total about 346,000, or a market saturation of 46.6 per cent, Prof. McDermott estimates.

Electric Range Sales High During 1935

DETROIT—Sales of electric ranges manufactured by Electromaster, Inc., during 1935 showed a record increase in this company's business, Gerald Hulett, vice president in charge of sales administration, stated at Electromaster's annual meeting held in the Detroit-Leland hotel here recently.

Speakers who addressed dealers and salesmen included: R. B. Marshall, president of Electromaster, Inc.; Wilbur Henry Adams, industrial stylist, Cleveland; and Parker Holden, advertising counsel, Detroit. Walter C. Ayers, sales manager, was in charge of the week's program.

PRECISION Manufacturing METHODS ...far beyond the Usual!



COPELAND Commercial REFRIGERATION

The smooth performance and long life built into every Copeland refrigerating unit is accomplished by means of several additional manufacturing operations not common to most such products. For example: Cylinder walls are micro-honed on a special machine that produces a mirror-like surface; all bearing surfaces are diamond bored; the finish and fit of all moving parts are kept to close tolerances with micro-smooth surfaces. You could do well with Copeland commercial refrigeration. Write today.

COPELAND REFRIGERATION CORPORATION
Manufacturers of a Complete line of Household and Commercial Refrigeration
Holden Ave. at Lincoln . . . DETROIT, MICH.

Copeland DEPENDABLE Electric REFRIGERATION

What Distributors Say....

R. A. Gerlinger says:-"We will sell more Gibsons in 1936 than ever before . . . the line is a winner!" Gerlinger Equipment Co., Gibson Distributor, Toledo, Ohio.

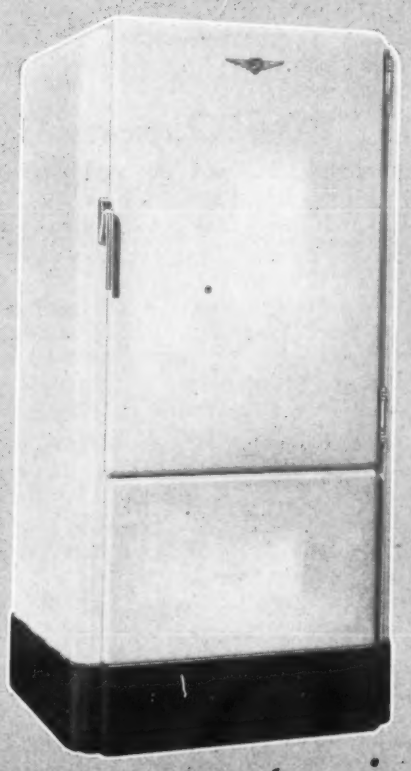
S. E. Schulman says:-"1936 should be the refrigeration industry's biggest year - and Gibson's, too." Commonwealth Utilities, Gibson Distributor, Chicago, Illinois.

Ben Golden says:-"The FREEZ'R SHELF put us on top in 1935 . . . there will be no stopping us in '36." Eastern Electrical Supply Company, Gibson Distributor, Newark, New Jersey.

Walt Wissemann says:-"A splendid line and an early start . . . that's what we need and we have it; so watch Remick's in 1936." Jas. S. Remick Company, Gibson Distributor, Sacramento, California.

Sales appeal in 1936... will it be PRICE or FEATURES?

GIBSON has Both plus



and the PROVEN Freez'r Shelf

AIR CONDITIONED

Tested and Approved by Good Housekeeping Institute Conducted by GOOD HOUSEKEEPING MAGAZINE SERIAL NO. 2503

It will pay you to investigate!

GIBSON

ELECTRIC REFRIGERATOR CORPORATION
HOME OFFICES AND FACTORIES: GREENVILLE, MICHIGAN

ELECTRIC
REFRIGERATION NEWS

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'Obsolescence & Replacement'

FIGURES published in the Jan. 1 issue of the NEWS giving the "outside measurements" of the household electric refrigeration business will probably arouse considerable speculative interest on the part of executives in all branches of the industry, due to one particular figure in the condensed tabulation which appears on the front page.

The total number of household electric refrigerators sold by all U. S. manufacturers up to Dec. 31, 1934, set at 7,275,000, has already been accepted as a reliable estimate.

Sales during 1935 are estimated at 1,700,000 and will probably not be changed materially when the final revision is made. Approximately 93 per cent of this number, or 1,550,000, represents sales by member companies of the Refrigeration Division of National Electrical Manufacturers Association. Authentic returns for 11 months amount to 1,496,680, so that it only remained for the NEWS to project the curve to the end of the year and then make an allowance for miscellaneous producers not included in the Nema total.

Growth of the Nema membership during the past two years has left only a few manufacturers of any size who are not reporting regularly to the association headquarters. Sales by Grunow and manufacturers on the Pacific Coast are the most important elements in the uncertified column. It should be noted that Sears Roebuck and Montgomery Ward sales are included in the Nema reports.

Adding the two key figures above, we have "estimated total world sales by all U. S. manufacturers up to Dec. 31, 1935," amounting to 8,975,000. From this total is deducted *exports,* figured at 450,000 up to Dec. 31, 1934, and 133,000 for the year 1935, or total export deductions of 583,000.

Deducting exports from total world sales, we get a figure of 8,392,000 for total sales of household electric refrigerators *in the United States* up to Dec. 31, 1935.

Thus far down the column regular readers of the NEWS and users of the MARKET DATA BOOK will find nothing to create surprise. The next major item for deduction, however, may cause a good many sales executives to sit up and take notice. We refer to the estimate for "obsolescence and replacement" which shows a total of 1,017,000.

There is nothing new about making such an allowance, since a deduction has been made under this title every year since the NEWS has been estimating the percentage of market saturation. Obsolescence and replacement, as estimated by the NEWS, had grown to 875,000, up to Dec. 31, 1934, and this year we have added 142,000, which makes the total add up to *over one million.*

Now it has become an established tradition that when anything in the electric refrigeration industry hits *the million mark,* it is time to pound on the drums, get out a 24-sheet poster, or run a double-page spread in the *Saturday Evening Post.*

Even since we wrote down, with a somewhat trembling hand, that figure of 1,017,000 for obsolescence and replacement we have been nervously waiting for the repercussions, reverberations, or the application of sanctions.

But before the Jan. 1 issue had a chance to reach even the nearest subscriber, a challenge arrived from Boston. Under date of Dec. 31, 1935, Scudder, Stevens & Clark Investment Counsel, wants to know the "how come" of our figure for total obsolescence and replacement as published in the 1935 MARKET DATA BOOK. (See "Letters" column on this page.)

The Boston firm would like to know how we have arrived at the figure for obsolescence and replacement. The answer is that we have "arrived" at that point by following numerous and devious trails.

For example, our estimate of replacements includes all apartment house multiple systems which have been discarded in favor of self-contained units and those for which new cabinets have been installed, even though the old compressors are still running.

Also please note that the substitution of a new *evaporator only* makes the job a "replacement" statistically, since the *cooling unit* has always been taken by Nema as the basis for determining the *number* of *household* users.

Numerous other factors have been taken into consideration in estimating *all deductions* (other than exports and stocks in the hands of distributors and dealers) which have been lumped under the general heading of "obsolescence and replacement" in order to get the total number *now in use.*

We are quite willing to admit that we are by no means sure that our estimate is correct. If any reader feels that he has a better figure or has found a better method of making such an estimate, we will be pleased, indeed, to yield the floor while he expounds his theory.

We will await comment on this estimate before discussing, in a later editorial, the future significance of the expanding *replacement* market.

1936 Outlook

Fairbanks Morse Home Appliances.
Chicago, Ill.

(Editor's Note: This answer to our four questions to leading executives arrived too late for publication with other replies in the Jan. 1 issue.)

We believe there is no question of the American public having sufficient buying power as well as the need for absorbing two million electric refrigerators in 1936.

While conditions are, in our opinion, favorable for a decided increase in residential building this activity may continue comparably slow during the first half of the new year.

National Housing Act and Federal Housing Administration proved of decided benefit to appliance industry and seems to have been one of the administration's soundest moves to encourage retail business; continuance of these activities will assist our industry materially.

As to editorial assistance your paper may lend air conditioning, I believe best help will be admonition to pursue sound selling and engineering tactics in order that public is not misled to expect more than can really be delivered at this stage.

W. PAUL JONES,
Executive Vice President.

Letters

Statistical Question

Scudder, Stevens & Clark
Investment Counsel
10 Post Office Square, Boston

Editor:

I would very much appreciate it if you would send me some basic refrigeration statistics. In your 1935 REFRIGERATION AND AIR CONDITIONING MARKET DATA BOOK you have as a figure for "Total Obsolescence and Replacement" of electric household refrigerators 875,000 units. Sales of household refrigerators by U. S. manufacturers from 1920 through 1934 you have placed at 7,275,000 units from which, among other things, you deduct this figure 875,000 for obsolescence and replacement. I am interested in how you arrived at this 875,000 units, that is, obsolescence and replacement figured yearly. I also would like to know your figures for total obsolescence and replacement for the past five years comparable to this 875,000 units.

M. J. LINDH.

Answer: See editorial on this page.

Middle-Aged Gentlemen

J. K. Marquardt
4115 Buell Drive
Ft. Wayne, Ind.

Publisher:

Upon reading your editorial in the Dec. 25 issue of the NEWS I found it impossible to constrain myself from giving a few views of my own on the subject you discussed.

All of you middle-aged gentlemen of some means and connected with industry and business life seem to forget that it has not been so very many years ago that industry was throwing out all kinds of flowery inducements to potential workmen to try to get them to pull up stakes from their old established means of making a livelihood, namely farming, and coming to the city to make a living in industry.

Industry has succeeded in bringing a large amount of men from independent walks of life into its fold. Regardless of what you might say or think these men and their families are totally dependent on industry for a livelihood.

Now just for an example to show more clearly the injustice involved we will suppose I had a horse that I needed to perform a certain job. Also this job only lasted for eight months of a year. Suppose I should say: Well I will just turn him out and let him shift for himself those four months I do not need him and then when I have use for him again I will go out and get him. I could not get away with it as the humane officer would be compelled to intervene by the force of public opinion.

Is it not shameful that "big" industrial moguls get the idea into their heads they can treat human beings that way and get away with it?

We all know that the present administration has many grevious faults. Also it has shown that it is receptive of public opinion which any truly democratic form of government must do if it expects to long survive. In my opinion, if industry would show a willingness to meet its rightful moral obligations to its employees much of the bitterness now existing would soon melt away. Do not ever think for a moment that the force of public opinion cannot be brought to bear in the administration's favor again as there are too many people in this country that have been made the victims of selfish greedy men to think that they will forget so quickly.

I think you violently critical influential men could do a real service to your country if you would not fight propaganda with pure unadulterated propaganda but expose the true conditions in industrial life and let the force of truly informed public opinion mould the regulations that we all know are necessary.

I believe in stating facts. You know and I know that the business life in this country is in real danger of being completely swallowed up by large monopolies. The men that now have control of things are determined that they will not allow anybody but those they see fit to have any influence on business or business policies. Just suppose this attitude had been fostered in the country during the last one hundred years? Where would we now be?

It is a well established fact that monopolies stifle initiative and the desire to grow and expand. Whenever it is made impossible for the best man or the best business organization to get ahead just because they are not in favor with the powers that be our country has reached its zenith.

Also as a further thought what right has any man or group of men to corner the natural resources of our country and then force the people to buy the right from them to have the use of these resources. It is just plain barbarianism.

I am not a Communist. Also I am not in favor of dictatorships by big business or otherwise. I am in favor of true rugged individualism freely interspersed with the teachings of Jesus Christ.

After all there is not a whole lot more to the issue than the fact that a certain select group of individuals have control of the business life of the country and they are determined to either hold control and dictate their own selfish policies or try to ruin the country so that there will be nothing worth while for anybody to take in case they are forced to capitulate. That may sound like a radical statement but it is nothing more than human nature in the raw and human nature never changes.

Also the more stubborn these individuals are to reform the more violent the reforms will be when they come.

Is it not an indictment of big business policies to know that they are ready and willing to throw our country into war to protect their trade concessions in countries with an admittedly low standard of living when there are vast territories right here in our own country that are ready and eager to have the comforts and luxuries of modern living if we will only put it before them in a way that they can get it.

J. K. MARQUARDT.

Answer: See "Comment" on above letter in next column.

New Supplies Catalog

F. H. Langsenkamp Co.
Jobbers
229-237 E. South St.
Indianapolis, Ind.

Editor:

We are enclosing a copy of a supply catalog that we just received from the printers in which I thought you might be interested.

While this was in the hands of the printers at the time of the Detroit meeting of jobbers, you will note that we had already gone ahead with the idea of publishing list prices, upon which this meeting, which you so kindly assised in forming, decided.

We wish to take this opportunity to also thank you for all the many courtesies which you rendered the distributors at the Detroit meeting. Your company should feel proud of the part they played in assisting the formulating of organizations that will prove so beneficial to the industry.

F. LANGSENKAMP, JR., Treasurer.

Catalog Mailing Service

435 W. Center St.
Pomona, Calif

Editor:

I am a subscriber to your paper, REFRIGERATION NEWS, and think it is the best ever published. Will you kindly add my name to your list of service men in your catalog mailing service being prepared by Business News Publishing Co.

I think you should be highly complimented for this valuable service as it should be highly beneficial to both manufacturer, distributor, and service man.

I am taking this opportunity to wish you and the entire personnel of Business News Publishing Co. a most Happy and Prosperous New Year.

E. L. EVANS.

4346 Hickory Ave.
Hammond, Ind.

Editor:

I would like to ask you to place my name in your mailing list you are forming. I am an independent service man and I take your good magazine and surely like to read it.

I am interested in the Refrigeration and Air Conditioning Specifications you are printing. If you have a loose leaf out of the book showing the information given on any one refrigerator I would like to have you send it to me so I could get an idea of the information it contains.

LESTER K. KELLEY.

Reconditioned Trade-Ins

Clark Electric and Refrigeration Service
106 East Church St.
Marshalltown, Ia.

Editor:

Under "Letters" in Dec. 11, 1935 issue, your answer to Watson Way, Bellefontaine, Ohio, I wish to ask that you place my name on the list to receive catalogs, etc. from the manufacturers. This is a wonderful service, and I know it will be greatly appreciated by the service men in the field.

I would like to hear from some service men on the success they are having with reconditioned trade-ins from dealers.

With best wishes for the continued success of your great publication.

ARTHUR J. CLARK.

Baker's Electric and Refrigeration Shop
Audubon, Iowa

Editor:

Please enter my name on your new catalog list you are compiling. Have taken REFRIGERATION NEWS for two years through Hal's News Shop here in town.

Why not a series of articles on factory methods of assembling and testing and say a department of service hints by the service men?

CHARLES BAKER.

Comment

By F. M. Cockrell

A Young Man's Views on Government & Industry

In the adjoining columns is an interesting letter from Subscriber J. K. Marquardt of Ft. Wayne, Ind., expressing his impressions of a recent editorial in which the New Deal malice toward business and business men *per se* was pointed out as a "fatal misconception" of the present administration.

From the reference in his letter to "you middle-aged men of some means," it appears that Mr. Marquardt takes it for granted that the editorial in question was written by a capitalistic, semi-retired *publisher.*

The fact is that the editorial was written by a *young* man, still in his twenties, whose principal assets are an active and well-trained mind, a strong and healthy body, and a well-developed spirit of independence. I will add that the young man was *not* "instructed" to write the editorial. It was his own idea.

When I first read it, it was already set up in type and my only contribution was to suggest the revision of one paragraph which had the effect of making the discussion somewhat less critical of President Roosevelt.

• • •

No Propaganda

I mention these simple facts, not because they are especially significant, but merely to clear up any impression on the part of Mr. Marquardt or any other reader, that the editorial in question may have been furnished by a propaganda agency or paid for by the Republican National Committee.

In brief, the young man on the staff of the NEWS who expressed his views of the new deal in such clear, logical fashion was simply stating his *own* opinions.

For the present, I will not disclose his identity except to say that he is widely and familiarly known in the refrigeration industry as "George."

• • •

Influence of Experience

With all due respect to George's ability to make up his own mind and say what he thinks, it is entirely possible that he has been influenced to some extent by his experiences and associations with industrial executives during the past several years.

Few young men have had so good an opportunity as he has, during the depression period, to see the inside workings of a highly competitive industry in action.

During that time he has watched the refrigeration business become a major industry. He has observed the competitive struggle, the battle for supremacy, and he has been in the thick of the fight.

• • •

Ideas Not Acquired from Story Books or Movies

Like a "war correspondent" at the front, he has not been immune to stray bullets. At times he has incurred the wrath of both sides in combat by getting in the way of their movements or publicizing their strategy.

Certainly George has no vague ideas about the wheels of industry. His views on industry, competition, mass production by machinery, or the products of capitalism were not acquired from story books or the movies.

• • •

Problems of Managing a Small Enterprise

In addition to his contacts with the operations of some of the largest corporations in the country, he has also had an opportunity to get a very intimate picture of the problems connected with a small business enterprise, namely, the Business News Publishing Co.

At first hand, he has learned the difficulties of establishing a new business, training an organization, collecting tools and equipment, developing the necessary routine and system, keeping expenses with income, paying taxes, and trying to comply with all the rules and regulations of governmental agencies.

In brief, when George talks about government and industry and the effect of the new deal experiment in regulating business, he is not reflecting opinions acquired from a college professor, the smart social set, the Union League Club, or the radio speeches of Father Coughlin.

(Concluded on Page 18, Column 3)

SATURDAY

In the name of Human Health and Happiness

SCIENCE MOVES FORWARD

With test tube, and beaker, and microscope, men have searched the unknown for new truths—truths that would mean the dawn of a fuller life for human beings.

In its march forward, Science has brought rich gifts to refrigeration—gifts for safeguarding the health of children, sparing the strength of women.

With the aid of modern scientific discovery, Kelvinator, pioneer in electric refrigeration, now offers a refrigerator far in advance of former standards—far more complete in its service to users—and far more economical in its cost of operation.

We feel justified in suggesting to all present users of mechanical refrigerators that they consider the greater service that modern science now makes possible in their homes.

Research and Invention have again created that situation, so typically American, that calls for replacement of something that was infinitely good with something, now, that is infinitely better.

• • •

and so we offer you
a New Kelvinator . . .
your next refrigerator

TO THE 7,000,000 OWNERS OF MECHANICAL REFRIG

AND *To those who ho*

For the First Time

A BUILT-IN THERMOMETER TELLS YOU EXACTLY HOW COLD IT IS

There's no longer any uncertainty regarding the temperature inside your refrigerator. You may always *know* that the food in your 1936 Kelvinator is perfectly protected, whether the temperature in the kitchen is 50 or 110 degrees. For the 1936 Kelvinator is equipped with a built-in thermometer that tells you in unmistakable figures that the food compartment is surely, safely, dependably cold.

Beautiful CABINETS OF MODERN DESIGN

The new Kelvinator is the most beautiful refrigerator we have ever produced.

With the aid of Count Alexis de Sakhnoffsky, world-famous designer, Kelvinator engineers have combined beauty with utility. Every inch of food space is instantly accessible. Every article can be seen at a glance and reached without effort.

With the aid of modern scientific discovery, Kelvinator—pioneers in electric refrigeration—now offers a refrigerator far in advance of former standards—far more complete in its service to users—far more economical in its cost of operation. . . . It makes its greatest contribution in the basic fundamentals of refrigeration service.

So important are these new developments that the 1936 Kelvinator will appeal instantly to a vast number of present users of mechanical refrigerators who will want to replace what they have today with something infinitely better.

New controls have made it possible to maintain accurate, constant temperatures in the food compartment—temperatures at which food is kept fresh, safe, healthful, free from spoilage whether the temperature in the kitchen is 50 or 110 degrees. So accurate and responsive are the controls, and so important are the temperatures they maintain that we have equipped Kelvinator with a built-in thermometer that tells you exactly how cold it is.

See the new KELVINATOR

EFRIGERATORS

...ve not yet Bought

For the First Time

TO A FIVE-YEAR PROTECTION PLAN—WE HAVE ADDED CERTIFIED LOW COST OF OPERATION

The new Kelvinator comes to you backed by a 5 year Protection Plan, written and signed by the oldest company in the electric refrigeration industry.

Furthermore, for the first time in the history of the business, Kelvinator provides you with a Certificate of Low Operating Cost. This is evidence of the company's confidence in the performance of the new 1936 Kelvinator.

The new Kelvinator operates on amazingly little current—one-half, possibly one-third, as much as many refrigerators now in use. And each Kelvinator is sold with a signed Certificate of Low Operating Cost.

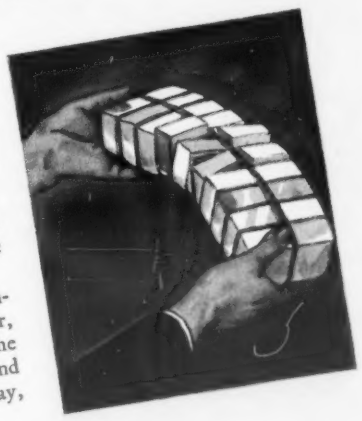
See the new Kelvinator. It represents progress just as great as did your present refrigerator at the time you bought it, over the methods you formerly used. We believe you will find the 1936 Kelvinator will cost you less to own and use and enjoy than any other refrigerator you could buy. It is now being shown by dealers everywhere.

The 1936 Kelvinator is the Only Refrigerator That Offers *ALL* These Features

1. A built-in thermometer. . . . 2. A Certificate of Low Operating Cost. . . . 3. New beauty in design. . . . 4. 5 year protection plan. . . . 5. Flexible grids in all ice trays. . . . 6. Interior light. . . . 7. Food crisper. . . . 8. Vegetable basket. . . . 9. Automatic defroster switch. . . . 10. Sliding shelves.

KELVINATOR CORPORATION, DETROIT, MICHIGAN

All ICE TRAYS HAVE FLEXIBLE RUBBER GRIDS



The new 1936 Kelvinator, for the first time, provides all modern flexible rubber trays or grids for ice freezing.

This means that ice cubes are instantly accessible. It means colder, larger ice cubes. It eliminates the inconvenience of ice removal and gives you all the ice in every tray, easily and quickly.

Your next refrigerator

Big things have Happened at Kelvinator!

FRED HOGSTROM, Assembler . . . KEATE LAMBERT, Foreman . . . LAWRENCE McCLUNG, Machinist . . . E. A. SEIBERT, Service Mgr. . . . W. R. CROSSETT, Comptroller . . . E. HEITMAN, Chief Engineer . . . J. B. OGDEN, J. L. Hudson Department Store . . . REDMAN WALSH, Branch Mgr. . . . ROBERT WARD, Clerk . . . V. C. WOODCOX, Advertising . . . C. FEAZELL, Stock Keeper . . . F. HACKETT, Dealer . . . G. M. EVANS, Vice-President, Manufacturing B. B. GEYER, Advertising . . . G. V. EGAN, Asst. Treasurer . . . RALPH PERKINS, Dealer Contact . . . H. W. NEWELL, Advertising . . . C. WOOD, Public Utility Sales . . . C. M. ARMSTRONG, V. P. Redisco H. EIDT, Branch Sales . . . C. TERRIS, Foreman . . . G. STRELINGER, Sales . . . H. W. BURRITT, Vice-President, Sales . . . C. C. THOMAS, Designing Engineer . . . E. A. WILDERMUTH, N. Y. Distributor H. G. PERKINS, Vice-President . . . L. PETERSMARCK, Watchman . . . CHARLES DAVIS, Repairman . . . V. J. McINTYRE, Sales . . . G. W. MASON, President . . . C. L. BARLOW, District Mgr.

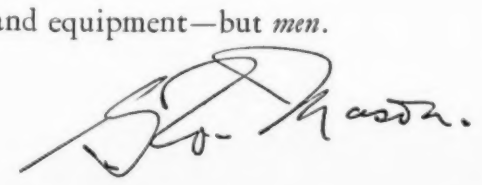
Not Money... Not Machinery... Not Plant and Equipment, but...

MEN

Steel and porcelain and copper are cold until touched and fashioned by men. But men have ideas and ideals. Men have ambitions and hopes. The history of American business is the history of men—men gathered together—working together—thinking together—happy with one another—inspired by what they can do for others—for themselves.

Big Things Are Happening at Kelvinator—Big Things Have Happened at Kelvinator—Big Things Will Happen at Kelvinator—because men in the factory—men in the field—like working and thinking, and growing and succeeding—with one another.

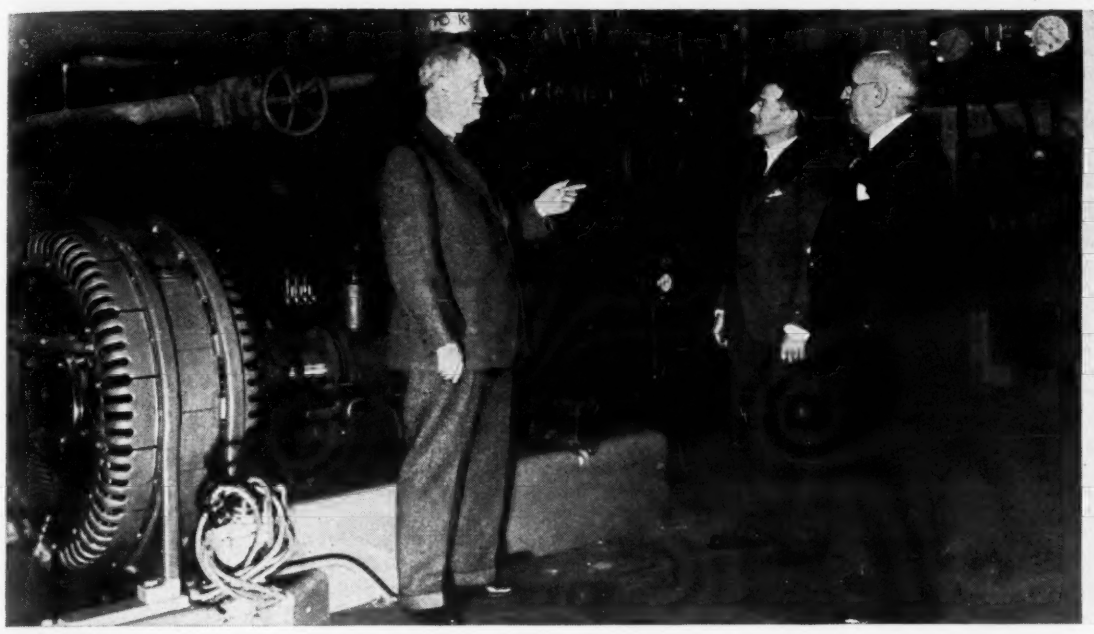
Not money, not machinery, not plant and equipment—but *men*.



See the New **Kelvinator**

Your Next Refrigerator

Hershey's Windowless Air-Conditioned Office Building Is Dedicated



(1) President W. F. R. Murrie of Hershey Chocolate Corp., A. B. Snavely, chief engineer, and W. S. Shipley, president of York Ice Machinery Corp., officially start the York air-conditioning system in Hershey's new windowless office building. (2) Exterior of the Hershey building. An "electric weather man," installed in each office, indicates outside weather conditions to employees.

Air Conditioning

Kelvinator Conducts Conditioning Schools

DETROIT—Air-conditioning division of Kelvinator Corp. held the first of a series of air-conditioning engineering schools at the factory during December. Additional schools are planned for January and February.

Engineers representing Kelvinator distributors were invited to attend these schools, in order that they may become acquainted with the method of air-conditioning engineering analysis employed by Kelvinator to arrive at an exact selection of system and equipment to meet the engineering requirements and practical economic needs of prospective customers.

Instruction was given in the progressive steps necessary from the time of locating a prospect through the survey, the load estimate, the design of the system, the cost analysis and pricing, the sale, the installation, the acceptance of the system, and its servicing.

Considerable time was spent on the psychrometry of the human body and the thermodynamic properties of air required to produce comfort. Discussion of design standards of temperature, humidity, air velocity, and air cleanliness, together with photographic illustrations of the factors effecting cool air distribution, were combined to give the engineers thorough appreciation and understanding of the basic theory and practice of successful comfort engineering.

By photographic illustrations and charts and through lectures, the engineers were instructed in methods and design of refrigeration and air-conditioning systems to transfer the heat from the space being conditioned to waste drain water or to the outside atmosphere. Every phase of this refrigeration process was covered.

Considerable time also was devoted to estimate of loads and to selection and design of equipment and systems, with particular emphasis being placed on the necessity of a correct balance of cooling and dehumidifying surface with compressor and condensing unit capacity.

Installation schedules, procedure, and detailed instruction was presented so that the estimated distributor profit might be maintained and realized.

The course was presented by J. K. Knighton, sales manager, and H. M. McGaughey, C. L. Toonder, and C. H. Pierce of the air-conditioning applications department, and H. H. McGehee of the air-conditioning service department.

Use of Ultra-Violet Ray In Cleansing Air Studied

NEW YORK CITY—Experiments in clearing air of bacteria by ultra-violet rays are described in *Science*, official publication of the American Association for the Advancement of Science.

The experiments promise to have an early and important bearing on the air conditioning of rooms, particularly in hospitals and sanitariums.

Dr. William Firth Wells and Gordon Maskew Fair conducted the tests at Harvard university. Samples of the air, taken before the rays were turned on, showed 5,200 to 9,500 bacilli present. None was found after the rays had been employed.

Signals Will Indicate Outside Conditions to Hershey Co. Employes

HERSHEY, Pa.—More than 14,000 visitors inspected the new windowless, air-conditioned office building of the Hershey Chocolate Corp. during an all-day "open house" conducted by the Hershey company in this town of 2,500 population Dec. 28.

In the morning, W. F. R. Murrie, president of Hershey Chocolate, A. B. Snavely, chief engineer of the company (and the man who is largely responsible for the building's unique design), and W. S. Shipley, president of the York Ice Machinery Corp., officially started up the air-conditioning system which makes possible the windowless type of construction.

In the afternoon and evening, groups of visitors were conducted through the building to wonder at its complete lack of windows, its comfortably conditioned air, its plentiful, well-diffused light, its modern office arrangements, and the "electric weather man" under the clock in each office which indicates outside conditions.

Elimination of disturbing noise and infiltration of dust from outdoors, freedom from drafts during the winter months, and a marked increase in the general efficiency and personal comfort of employees and executives are benefits which are expected to obtain from this windowless form of building construction.

Proper insulation of the building and the elimination of heat leakage through windows will result in appreciable reduction of both the summer cooling load and the winter heating load, so that an overall decrease of 25 per cent in the cost of operating the air-conditioning system is expected through adoption of this novel type of construction.

Two separate air-conditioning systems are being furnished, both incorporating a 135-ton standard York water-cooling system and York air washers. One, already installed, supplies conditioned air to the general offices in the front portion of the building, while the other (in process of installation) will handle the printing department, paper storage rooms, etc., in the rear part of the building.

Refrigeration equipment for each of the two conditioning systems is practically identical, consisting of a York 14x10-in. double cylinder Freon compressor direct connected to a 125-hp. synchronous motor. Each of these will operate in connection with a shell-and-tube condenser 16 ft. long and 38 in. in diameter. Compressors, condensers, and pumping equipment are being installed in the basement. From each of the two water coolers, refrigerated water is pumped to the air washers which condition zones.

Thus, the main floor offices are served by one air washer, and the second floor offices by another. Each one is designed to maintain a summer condition which is predicated on outdoor temperature variations, so that people entering or leaving the building will not be subjected to any unpleasant "shock."

This is done by employing differential thermostats which are set so that when the outside temperature is 70° F., the indoor temperature will be 72° F., and for each 3° increase in outdoor temperature the indoor temperature will be increased 1° F.

The air washer for the main floor is installed in the basement with the two compressor units, and conditioned air is supplied to ducts furred in above the hallways to be distributed to the various offices, lobby, and corridors. Air is returned from these offices through grilles in the lower part of the office doors into the hallways from which it is drawn, with some fresh air, back to the air washer.

The second floor is similarly conditioned by an air washer installed in a pent house on the roof. From this point insulated air supply ducts running across the roof distribute the conditioned air to plaques in the second floor ceiling. Air is returned to the washer for reconditioning from grilles at the floor line of the west end of the building.

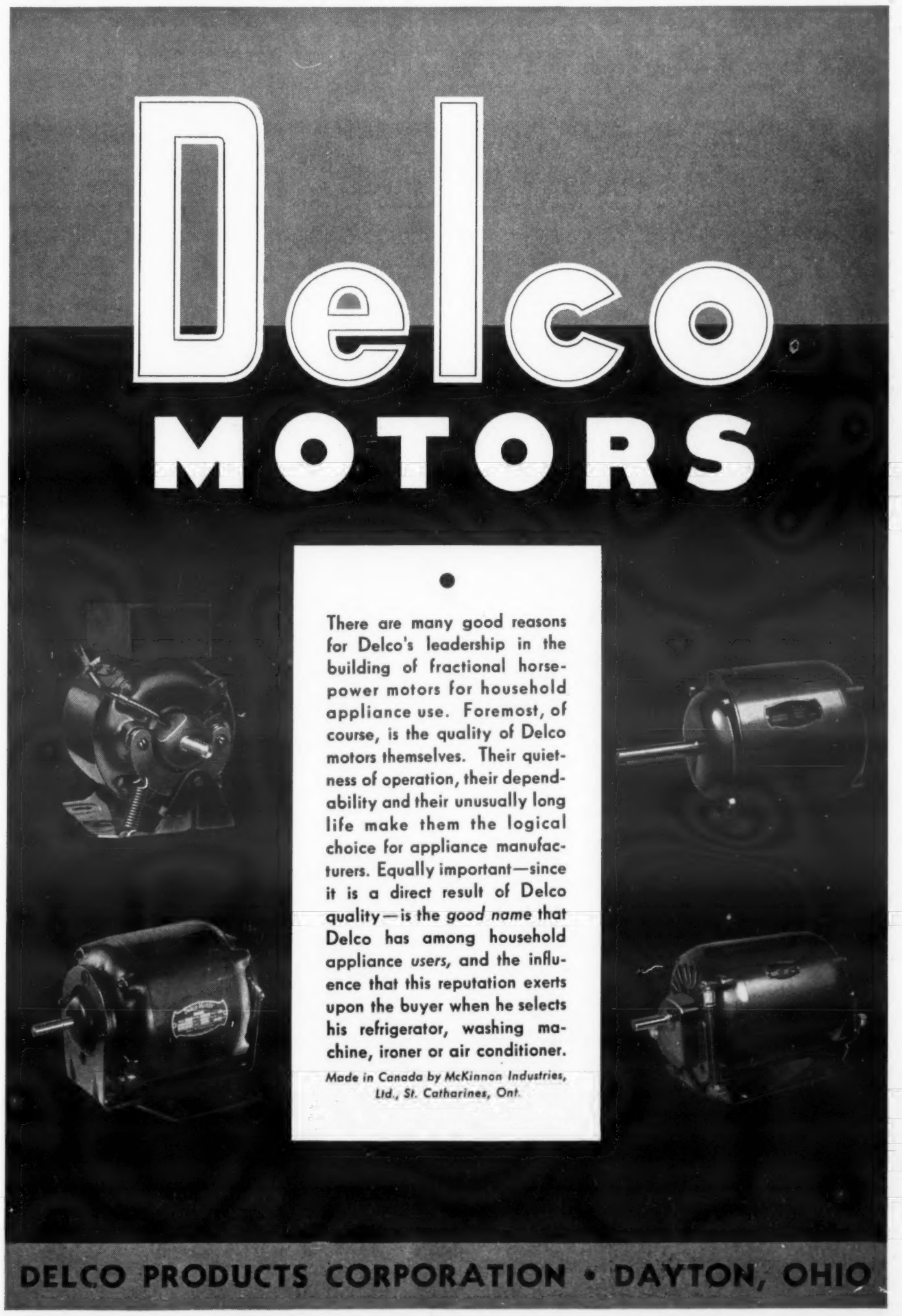
The first system was based on a lighting load of 2½ watts per sq. ft. of floor area, a population load of 167 people in the third floor offices, 268 in the second floor offices, and an electric light load of 10,000 watts.

A minimum of 15 c.f.m. of outside air per person is introduced in the offices with a complete change of air every eight minutes.

Maximum air velocity in ducts serving the offices is 1,800 f.p.m., and in the rest of the building 2,000 f.p.m.

A unique feature of the building is the "Electric Weather Man" as one might term the system of indicating outdoor weather conditions, which apprises the occupants just what to expect when they leave the building. This consists of a small brass panel placed near the electric clock which is installed in each office, with three colored glass bull's eyes in the panel and a miniature light behind each.

The colors are red, white, and green, so that seven different combinations have been adopted to indicate the outside weather.


Delco
MOTORS
There are many good reasons for Delco's leadership in the building of fractional horsepower motors for household appliance use. Foremost, of course, is the quality of Delco motors themselves. Their quietness of operation, their dependability and their unusually long life make them the logical choice for appliance manufacturers. Equally important—since it is a direct result of Delco quality—is the good name that Delco has among household appliance users, and the influence that this reputation exerts upon the buyer when he selects his refrigerator, washing machine, ironer or air conditioner.
Made in Canada by McKinnon Industries, Ltd., St. Catharines, Ont.
DELCO PRODUCTS CORPORATION • DAYTON, OHIO

Air Conditioning

Edison Institute Report Gives Data on Air-Conditioning Operating Cost

NEW YORK CITY—First published data on the cost of operating air-conditioning systems in various cities throughout the country are contained in the 1935 report of Edison Electric Institute's air-conditioning committee.

The figures answer the need for more complete air-conditioning cost data, the result of increasing interest on the part of public utilities in promoting the use of summer conditioning equipment. It is believed that if the important facts about an installation are known, adjustments can be made to provide estimating data for contemplated installations, even though the climatic conditions under which the contemplated installation will operate are different from those where the sample installation was made.

Operating figures for residences, restaurants, stores, offices, office buildings, printing plants, undertaking parlors, banks, and hotels are covered in the report. Cities covered are New Orleans, St. Louis, Houston, Dallas, Washington, D. C., Miami, and New York City. Statistics on approximately 45 typical installations are given in the report.

By classifying the various installations on which information was obtained, the committee was able to make certain general conclusions, some of which are:

In the restaurant field, business hours vary all the way from 12 to 24 hours per day, and operating time of conditioning equipment from 1,200 to 4,000 hours per year. Current consumed per horsepower per season varied from 600 to 1,400 kwh. on the installation covered, averaging 800 kwh. per ton per season for the usual restaurant.

Location is the determining factor in number of hours of operation in the theater field, the report concludes. Downtown theaters in metropolitan areas operate an average of 15 hours per day, while neighborhood theaters are open only 10 to 12 hours daily.

Number of operating hours depends on location, but generally run between 1,500 and 2,500 hours, it was found. Current consumption per horsepower per season is lower in the theater group than in the restaurant group, ranging from 400 to 600 kwh.

A great deal of variety was evident in the office field. Here available data covered installations ranging from a general office, containing 45 people, to entire office buildings, housing as many as 1,000 workers. Daily hours of operation, however, were the same in each case, eight. Current consumption ranged from 800 to 1,200 hours per horsepower per season, the average being a little above 1,000.

In the residential field, the report found, daily operation varies for different rooms. An overall average of rooms covered, however, showed an average of 1,200 hours per year. Current consumption averaged 900 kwh.

Department stores and large stores, the report concluded, operated an average of 1,400 hours per season, and used an average of 1,100 kwh.

"Our studies convince us that utility companies will develop additional power load by taking an active part in furthering air-conditioning installations," reads the accompanying statement by C. E. Michels of Union Electric Light & Power Co., St. Louis, chairman of the committee.

"The air conditioning business is growing at such a pace that it promises to become one of the major outlets for electric energy in many territorities.

"Assuming that air conditioning really started as a general industry in 1928 or 1929, it has gone farther in six years than electric refrigeration went in more than twice that length of time, electric refrigeration being used for comparison because it represents the greatest power load of all electric appliances.

"We no longer need to wait for air conditioning to become practical. It is already on a practical basis, insofar as responsible manufacturers are concerned, both in respect to equipment and technique. More than that, the manufacturing of air-conditioning equipment has reached the point where the larger companies are on a production basis.

"Prices have reached a stability which is comparable to other established products. Substantial reductions in the immediate future cannot be expected unless unforseen changes occur in entire economic situation."

Last part of the report is devoted to the matter of cooperation with manufacturers of air-conditioning equipment. In this section, suggestions as to how utilities can best help manufacturers in promoting air conditioning's use have been made by J. A. Harlan, Kelvinator Corp.; H. J. Walker, Frigidaire Corp.; S. F. Myers, Westinghouse Electric & Mfg. Co., and J. J. Donovan, General Electric Co.

Consensus of suggestions is:

1. Public utilities should assume a considerable part of the burden of educating the public in regard to air conditioning, through advertising, demonstrations, shows, and exhibits.
2. Utilities should assist in stabilizing the air-conditioning industry by cooperating with dealers, by encouraging correct technique, by endorsing reliable equipment and methods, by frowning upon bad practices.
3. Companies should not pass out leads promiscuously, and thereby subject prospective buyers to a confusing assortment of plans and proposals.
4. Utilities should sponsor local bureaus for air-conditioning dealers and allied interests, to coordinate activities and establish standards.

Summer Air-Conditioning Operating Data—Stores and Small Offices

City	New Orleans	St. Louis				Dallas	Houston	Washington, D. C.				Miami				New York	
Type of Establishment	Large Store	Spec. Store	Spec. Shop	Store	Office Suite	Undertaker	Large Store	General Office	Large Store	Large Store	Office Suite	Spec. Shop	Undertaker	Store	Private Office	Spec. Shop	Undertaker	Office	Retail Store
Space conditioned cu. ft.	1,476,000	34,000	28,200	50,000	24,800	....	1,750,000	60,000	110,000	156,000	11,560	27,540	44,250	117,450	144	11,648	14,090	.....	112,000
Area of space sq. ft.	123,000	2,300	1,765	3,870	1,960	6,400	97,000	4,400	8,760	12,100	1,156	1,530	...	8,959	1,440	1,456	1,409	.....	8,000
Operation hours per year	1,370	900	1,536	1,200	1,250	1,515	1,450†	1,200	1,350	...	...	...	...	2,030	300	1,080	...	1,100	1,600
Maximum demand	349/	33/	0.23*	0.32*	....	....	289/	2.62*	0.36*	0.25*	...	...	...	51.5/	0.7/	3.9/	9.0/	9/	20/
Consumption kwh. per year	3,600	24,200	7,390	10,800	8,000	14,215	496,200	14,851	28,100	22,946‡	4,068§	5,940¶	3,350	90,525	125	1,463	743	4,800	13,790
Water consumption cu. ft.	...	...	...	...	...	...	...	157,500	567,000	...	...	...	...	...	...	...	23,000‖	55,000	122,000
Compressor hp.	300	...	6	15	10	7-3	250	10	30	29	5	7½	15	63	1	3	7½	10	20
Capacity of unit, tons	250	18	5	14	...	21	...	10	28.3	...	...	...	...	58½	1	3½	6	...	...

*Hp. per 1,000 cu. ft. †Compressor only. ‡May to January. §Estimated. ¶July to January. ‖Gallons. /Kw.

Summer Air-Conditioning Operating Data Homes

City	New Orleans	St. Louis	St. Louis	St. Louis	St. Louis	Dallas	Washington D. C.	Miami
Conditioned Area	Single Room	Living Room	Dining and 2 Bedrooms	Living Room	Bedroom	Living, Dining and 2 Bedrooms	Combined Living and Sleeping Room	Bedroom
Space conditioned, cu. ft.	2,100	....	....	....	....	....	3,840	....
Operation, hours per year	2,180	868	1,355	592	835	1,800	*	1,095
Maximum demand, hp.	1½	1½	6	1½	1⅝	3	2	1¼
Consumption, kwh. per year	2,457	1,112	4,074	1,186	1,252	3,425	1,600	523
Fan motor, hp.	....	1/20	3-1/20	1/20	1/8	....	....	....
Floor area, sq. ft.	120	....	....	....	....	....	480	270
Type of conditioner	unit	unit	unit†	unit	unit	unit‡	unit	unit
Compressor location	remote	remote	remote	cabinet	remote	remote	remote	cabinet

†Three units used—one in each room.
‡Four units—one in each room.
*Operated six months—June to January.

Summer Air-Conditioning Operating Data Restaurants

City	New Orleans	St. Louis	Dallas	Houston‡	Washington, D. C.		Miami	New York
Space conditioned, cu. ft.	....	16,750	....	3,200	60,800§	35,100	17,520	37,768
Operation, hrs. per year	1,200	1,253	3,066	4,400	....	....	3,650	1,900¶
Maximum demand, hp. per 1,000 cu. ft.	....	1.08	....	1.64	1.82	0.63	0.72	0.55
Water consumption, cu. ft.	....	....	....	79,500	....	....	....	1,094,000¶
Consumption, kwh. per yr.	3,600	9,560	32,050*	12,868	42,000†	9,568	18,572	11,900
Compressor hp.	3	15	10	5	3–10	2–10	11	19½
Capacity of unit, tons	3	12	..	16	....	....	9½	18
Floor area, sq. ft.	....	1,520	....	....	3,200	2,605	1,297	2,912
Fan motor, hp.	....	1	1½	....	2–3½	2	1½	2

*Includes fan operation in winter. †June to January only. ‡Lunch wagon. §Hotel dining room. ¶Estimated.

Suspended Units Used In W. Virginia Capitol

CHARLESTON, W. Va.—The Kelvinator year-'round air-conditioning system recently installed in West Virginia's state capitol building here included two suspended-type conditioning units and two 3-hp. water-cooled condensing units.

Installation is of the ceiling type, with central station system, and concealed grilles. Units are also equipped with heating coils and humidifier, controls, etc., for both heating and cooling the rooms which they serve. The present system covers the governor's office and reception room, the museum, and the archives room.

Angle Switching Used With Controls for Auditorium

KANSAS CITY, Mo.—Westinghouse Electric & Mfg. Co.'s principle of angle switching for synchronous motors has been used with the electrical control for the four 400-hp., 225 r.p.m. synchronous motors, driving 4-cylinder vertical single-acting compressors, used in air conditioning the new Municipal Auditorium here.

The angle switching equipment, which can be used in conjunction with synchronous motor control of the standard type, uses inductive generators on the motor shafts, and grid glow tubes and high speed relays in the field closing circuits.

The control functions in the ordinary manner up to the point of applying the excitation voltage; instead of closing the field contactor at this point, the high-speed synchronizing equipment is energized. This in turn applies the excitation to the motor the first time the rotors of the two machines are in the correct angular position relative to each other.

York-Freon Machine Used In Texas Cafe

SAN ANGELO, Tex.—Year-'round air-conditioning equipment, consisting of a 10-hp. Freon condensing unit and a York C-1500 air conditioner, has been installed in the City Cafe here. Installation was made by the A. C. Rogers Co., Fort Worth distributor for York Ice Machinery Corp.

Utility Has School on Air Conditioning

MANSFIELD—To familiarize air-conditioning salesmen of the Ohio Public Service Electric Shops, Inc., with Westinghouse equipment, its application and installation, an air-conditioning school was held in the display room of the Westinghouse factory here recently.

Preliminary to the instruction lectures, P. Y. Danley, manager of Westinghouse refrigeration and air-conditioning department, and J. F. O'Donnell, merchandise manager of the central district, gave introductory talks to outline the course.

Other members of the Westinghouse headquarters staff who participated in the school were: S. F. Myers, manager of air-conditioning sales; H. F. Hildreth, air-conditioning supervisor, central district; L. G. Huggins, C. E. Badger, and H. A. Baer of the air-conditioning sales department; P. J. Zilles, service engineer; and George Parks of the advertising department.

Subjects discussed by these men included: air-conditioning dealer responsibilities, explanation of dealer file, application data book, use of survey and estimate sheet, load calculations, selection of equipment, preparation of cost estimates, explanation of Mobilaire survey and estimate sheets, and discussion of service and installation book.

Lantern slides of installations, inspection of Westinghouse apparatus, and presentation of sales promotional material were other features.

The course was devised to give the salesman fundamental knowledge of the theory of air conditioning, and to acquaint him with the reference information which the company supplies. It also aimed to indicate a line of study which the salesman could pursue before attending the advanced engineering school which will be held at Westinghouse factory in January.

At the conclusion of the instruction course, salesmen were given an "assignment" in which they were asked to prepare preliminary surveys and load estimates, and to select the proper equipment, for the following types of installations: a private office, sales space in the Ohio Public Service Electric Shop, and a restaurant.

Torrington Mfg. Co. Makes Propeller Fan Blade

TORRINGTON, Conn. — Torrington Mfg. Co. is placing on the market a patented propeller fan blade, for use in air-conditioning systems, under the trade name "Airistocrat." The fan is said to be more quiet in operation than any other design having comparable performance characteristics. It is built in 10, 12, and 16-in. sizes.

Charlotte Distributor for Lipman Units Named

CHARLOTTE, N. C.—Refrigeration Service Co., has been appointed distributor for Lipman commercial and air-conditioning equipment.

Purer than the AIR you BREATHE!

EXTRA DRY ESOTOO
VIRGINIA SMELTING
(Liquid Sulphur Dioxide)

Every vestige of moisture is removed by our exclusive patented process! For 17 years Service Men have relied on EXTRA DRY ESOTOO, the perfected refrigerant.

Its companion-product, V-METH-L, is also high in the favor of machine-builders and service men. It can be used with flange-jointed copper tubing which costs much less than the welded steel construction required for ammonia.

These Virginia Refrigerants are easily obtained from 66 conveniently-located distribution points.

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

Mail Coupon Now!

F. A. Eustis, Sec'y, Virginia Smelting Co., 131 State St., Boston, Mass.
Send me the literature I have checked. I am interested in receiving any additional literature on Electrical Refrigeration you may issue from time to time.
☐ Folder: Extra Dry ESOTOO (Liquid Sulphur Dioxide) E-23-36
☐ Folder: V-METH-L (Virginia Methyl Chloride)
☐ Folder: Transferring from large to small cylinders
☐ Circular: Physical properties of various refrigerants
(Write name and address in margin)

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and
COMMERCIAL
WATER COOLING
(Coolers Only)

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1-100 Tons
1-4 Compressors
F-12—Methyl

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All Sizes

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McCORD RADIATOR & MFG. CO.-DETROIT

The Refrigeration Engineer's Manual

By S. L. Potts

Artificial Refrigeration Using Liquid Vapor Process

Chapter 1—Introduction

(Continued from Jan. 1 Issue)

Artificial refrigeration by the liquid vapor process. The cooling effect is produced by a physical change in a chemical (refrigerant).

To illustrate the manner in which the physical change takes place let us use water for the refrigerant because its action is better understood generally.

In Fig. 3, a small quantity of water is contained in a vessel open to atmospheric pressure. If heat from some outside source is supplied to this water in sufficient quantity, it will boil at 212° F. The liquid will change into a gas (steam) by the addition of 970.2 B.t.u. per pound of water evaporated.

In Fig. 4, a small quantity of water is contained in a closed vessel and subjected to 100 lbs. per sq. in. gauge pressure. If heat from some outside source is added to this water, it will boil when it reaches a temperature of 338° F. The liquid will change into a gas under 100 lbs. pressure and 338° F. with the addition of 880.5 B.t.u. of latent heat per pound of water evaporated. The latent heat is less but the sensible heat is greater, so that the total heat required for the gas is only slightly higher.

In Fig. 5, the same water is contained in the same closed vessel but the pressure has been reduced to one lb. absolute or 27.88 in. of vacuum. The boiling point has now been reduced to 101.76° F. If heat is supplied from some outside source, the liquid will change into a gas (steam vapor) at one pound absolute pressure and at a temperature of 101.76° F. by the addition of 1035.3 B.t.u. per pound of water evaporated. The latent heat is much greater here than in either of the other cases.

In Fig. 6, we have the same closed vessel with a small amount of water inside. This vessel is inclosed inside of another vessel which is heat insulated to prevent heat entering the inside vessel from any outside source. A vacuum of 27.88 in. of mercury or one lb. absolute pressure is produced inside the inner vessel. If the temperature of the liquid inside is above 101.76° F. the liquid will boil and absorb heat at the rate of 1035.3 B.t.u. per pound of water changed into steam. This heat cannot be supplied from any outside source because of the insulation, therefore, the heat will be taken out of the liquid itself and the temperature of the liquid will be lowered rapidly.

Effect of Pressure on Boiling Point

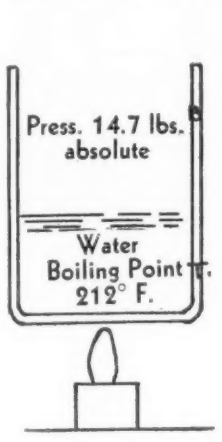

Fig. 3—Physical change of form in water at atmospheric pressure.

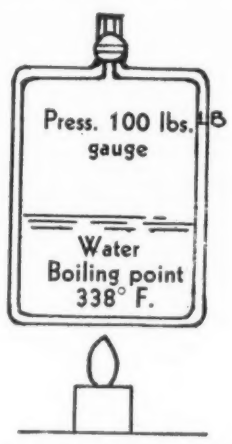

Fig. 4—Physical change of form in water at 100 lbs. pressure.

Fig. 5—Physical change of form in water at 1 lb. absolute pressure.

As soon as the temperature of the water reaches 101.76° F., the boiling will cease but the evaporation from the surface will start, and start at a rapid rate for evaporation, but much less rapid than for the boiling. The heat required for evaporation will be 1035.3 B.t.u. per lb. of water evaporated.

This heat comes from the liquid itself with another decrease of temperature below 101.76° F. This process will continue until the gas reaches the saturation point for the pressure and the temperature. At that point it will cease to evaporate and further cooling will cease.

If the saturated vapor is drawn off the vessel by a vacuum pump, the cooling process will continue because evaporation will continue. The lowest temperature possible is 32° F. with a perfect vacuum of 29.92 in. of mercury.

Water used as a refrigerant has very definite limits as to low temperature production.

Liquid vapor process using ammonia as the refrigerant that passes through the physical change to produce refrigeration.

Liquid ammonia (NH_3) is a very volatile liquid and does not exist as a liquid at normal temperatures and pressures. It boils at 28° below zero F. when under atmospheric pressure (14.7 lbs. absolute) in exactly the same manner as water boils at 212° F. under atmospheric pressure.

If we introduce liquid ammonia into a closed vessel as shown in Fig. 7, the liquid will start to boil immediately, and in boiling will require a large amount of heat from some source. If it cannot get it from some outside source, it will abstract this heat from the liquid itself, and the temperature of the liquid will be lowered to 28° below 0° F. (—28° F.) where it will remain until some heat is supplied to the liquid. For every pound of ammonia evaporated under this pressure 589.3 B.t.u. of latent heat will be required.

If this vessel containing the ammonia is placed inside of another vessel containing water as shown in Fig. 8, the water being of much higher temperature than the ammonia (water at 32° and ammonia at —28°) 60 degrees difference of temperature will cause a rapid flow of heat from the water to the ammonia. The ammonia will boil rapidly again and require 589.3 B.t.u. for every pound of ammonia changed to gas. This 589.3 B.t.u. will be taken out of the water in the outer vessel and the water is soon converted into ice at 32° F.

After all the water in the outer vessel is converted into ice at 32° F., the temperature of the ice is lowered to —28° F. when the ammonia will cease to boil.

In Figs. 7 and 8, we have assumed that the ammonia gas escaped into the atmosphere at a pressure of 14.7 lbs. absolute. If we place a valve on the outlet from the inner vessel and control the pressure inside, we can control the temperature inside also.

The pressure inside the vessel increases as the boiling proceeds and as the pressure increases the boiling point increases. Let the pressure raise from 14.7 lbs. absolute to 30.42 lbs. absolute. The boiling point has now raised to 0° F. instead of —28°. What was said about the ammonia at 14.7 lbs. now holds good for zero degrees at 30.42 lbs. absolute pressure.

If the discharge valve is regulated to give 62.29 lbs. absolute pressure inside the inner vessel, the boiling point now rises to 32° F. This temperature is amply low enough for many types of refrigeration.

To make this system still better, let us connect the discharge pipe from the inside vessel to the suction side of a compressor pump and operate the pump to maintain a pressure inside the vessel that will give us any temperature that we want.

Next substitute an evaporating coil for this closed vessel and we have now built the heat absorbing side of the liquid vapor compression process. The evaporating coils comprise the low pressure side of the compression system as shown in Fig. 9.

To illustrate how the gas is converted to a liquid after compression and made ready for the evaporating coils. Let us use the same vessel as in Fig. 8 but change the water temperature in the outer vessel to 60° F. as shown in Fig. 10.

If the vessel is submerged inside a tank of cold water at a temeprature of 60° F. As shown in Fig. 8 the gas is pumped into this vessel from the compressor so that the pressure will be raised. As we raise the pressure we raise the boiling point. As the boiling point is raised, the condensing point (which is the same temperature as the boiling point) is raised.

If the pressure is raised to 92.9 lbs. gauge the boiling and condensing point will be raised to 60° F. The condensing point of the gas and the temperature of the cooling water outside are the same, so no change of heat or change of temperature will result.

It is assumed here that the gas discharged from the compressor at

(*Concluded on Page 16, Column 1*)

Single System Using Ammonia

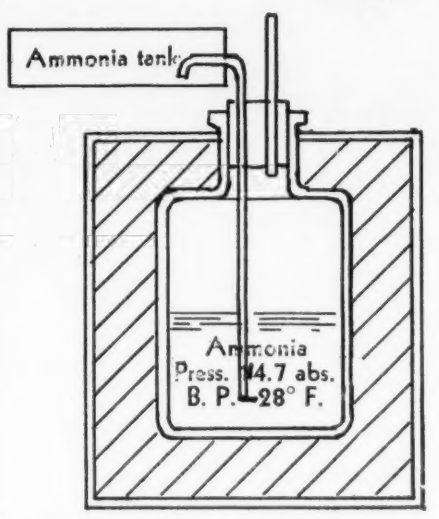

Fig. 7—Change of form of ammonia due to evaporation at 14.7 lbs. absolute pressure.

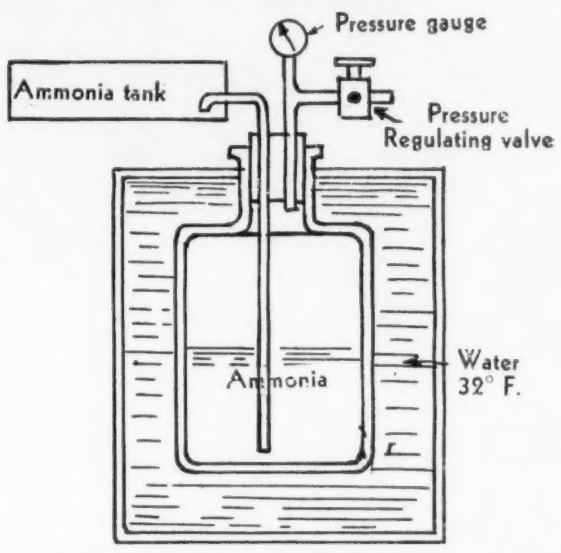

Fig. 8—Change of form of ammonia by heat from water jacket.

Outside Jacket

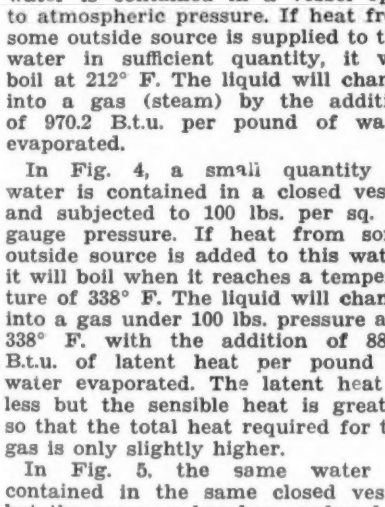

Fig. 6—Change of form of water due to evaporation at 1 lb. absolute pressure.

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When you sell an appliance that is finished in porcelain enamel you may rest assured the finish will be there as long as your customer lives—spotlessly clean and exactly the same as the day you wrote up the sales order.

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Diagram of Refrigeration System

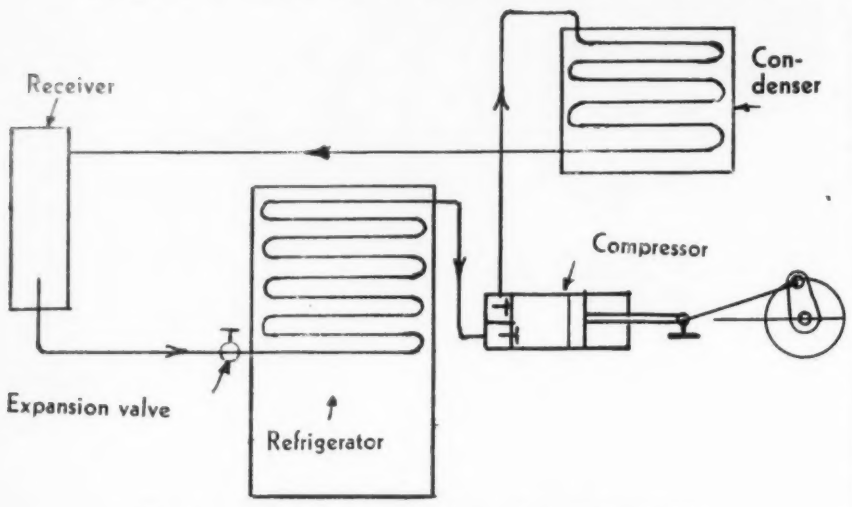

Fig. 9—Outline of compression refrigeration plant.

Operation of Ammonia Compression System

(*Concluded from Page 15, Column 5*)

high pressure is a saturated gas. This assumption is made to bring out the relation between the head pressure and condensing water temperature. This is never true in practice but can be assumed here. The gas leaving the compressor is always superheated and must be cooled considerably before any condensation can take place.

Let the ammonia pressure be raised to 103.1 lbs. gauge pressure inside the vessel. The boiling point and the condensing point will be raised to 65° F. The ammonia gas is now at a temperature above the temperature of the cooling water outside so a flow of heat will now take place from the ammonia gas to the water.

Assuming that the water supply is ample to maintain a temperature of 60° F. Then the gas will be cooled, its latent heat removed, and the gas condensed to a liquid. With only five degrees difference in temperature, the rate of heat flow from gas to water will be slow.

Let the ammonia pressure inside the vessel be raised to 114.1 lbs. gauge pressure. The boiling and condensing point is now raised to 70° F. (10 degrees difference) and the rate of condensing will increase in proportion to the increase in difference of temperature.

When the gas condenses to a liquid a great decrease in volume results and the tendency is for the pressure to drop. If the capacity of the compressor is ample, it will be able to put enough gas into the vessel to keep the head pressure up. If the capacity of the compressor is too small to maintain some certain head pressure such as to give 10 degrees difference of temperature, the head pressure will drop, the rate of condensing will decrease some, and the balance is soon found.

If the compressor forces too much gas into the condenser so that it cannot condense all the gas at 10 degrees difference, the pressure will rise, the difference of temperature increases and the condensing rate increases until a balance is found at the higher head pressures.

If we substitute a modern condenser and liquid receiver for this vessel we have been using, we have completed the high pressure side of the compression system and have made the liquid vapor process continuous.

In Fig. 11 we have a line drawing showing all the parts of a liquid vapor process more commonly known as the compression system of refrigeration.

Ammonia cycle in compression system. See Fig. 11, starting with the supply of liquid ammonia that is held in the receiver at high pressure and at temperatures of 60 to 100 degrees.

The liquid passes the expansion valve where the high pressure is lowered to the evaporator pressure that will give the desired temperature in the refrigerator box. As soon as the liquid passes the expansion valve, a small portion of the liquid will boil, just enough to lower the temperature of the liquid to the boiling point for the pressure in the evaporating coils.

If no more heat is available, the liquid will remain in the evaporating coils at the low temperature. This condition is unlikely to exist very long because heat will soon leak into the box and the ammonia will boil.

As soon as the gas is formed, it is drawn off the evaporating coils by the compressor. This is necessary to prevent the pressure in evaporating coils increasing which, if it did, would cause the boiling point and the box temperature to increase.

The compressor receives the gas at low pressure and low temperature. By performing work on the gas to compress it to the head pressure, the gas pressure and temperature are both raised in the discharged gas.

The compressor must raise the pressure and the boiling point or condensing point above the temperature of the cooling water in the condenser. The heat must flow from the ammonia gas to the cooling water.

The condenser brings the hot gases into intimate contact with the cooling water. Only the thin metal wall of the tube separates the gas and water. Heat is readily transferred from the gas to the cooling water and the gas is converted into a liquid. The liquid is drained into the receiver where it is held in storage until called for in the system again. This completes the ammonia cycle.

To summarize this into brief statements.

The expansion valve lowers the pressure and lowers the boiling point to produce the required temperature in the refrigerator box.

Evaporating coils bring the cold liquid refrigerant into close contact with the materials to be cooled, thus gathering the heat from the materials and using the heat to generate a gas within the evaporating coils.

Compressor function is to raise the pressure of the gas until the condensing point of the gas is above the temperature of the cooling water in the condenser.

Condenser is made to bring the hot gases into intimate contact with the cooling water in the condenser, so that the heat will flow out of the gases into the cooling water readily.

Receiver is a storage space for the liquid refrigerant until it is required for use in the system again.

Change of Form by Absorption

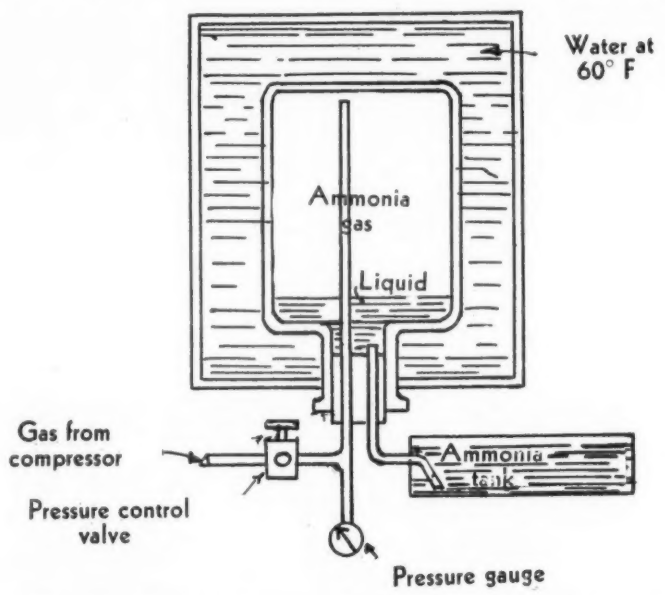

Fig. 10—Change of form of ammonia by absorption of latent heat at high pressure.

Ammonia Compression System

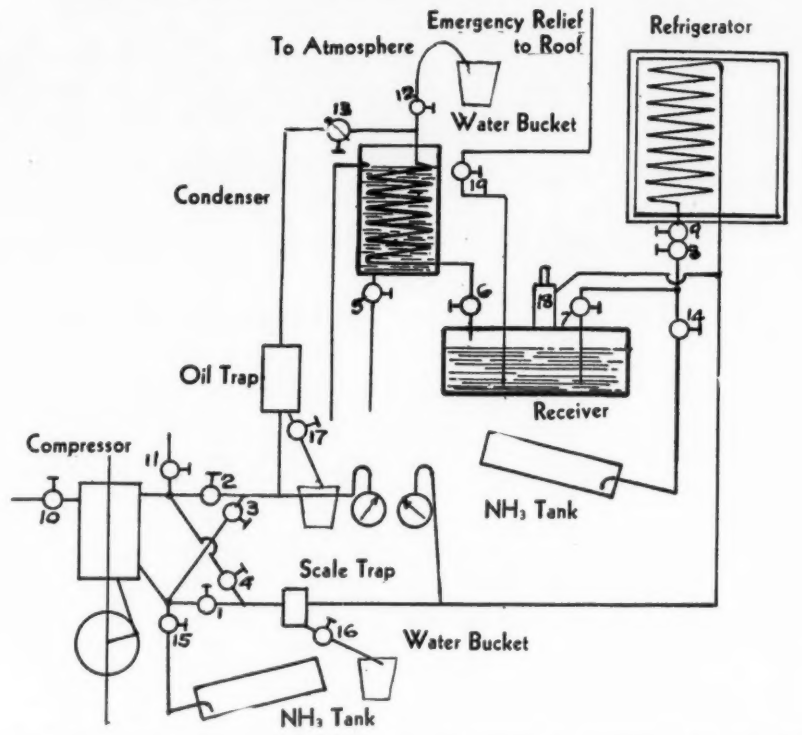

Fig. 11—Line diagram with valves of ammonia compression system. Key to numbers follows:

1 Suction valve.
2 Discharge valve.
3 Discharge crossover valve.
4 Suction crossover valve.
5 Cooling water inlet to condenser.
6 Receiver inlet shut off.
7 Receiver outlet shut off.
8 Refrigerator guard valve.
9 Refrigerator expansion valve.
10 Cooling water inlet.
11 Discharge valve to atmosphere.
12 Condenser purge valve.
13 Discharge check valve.
14 Charge valve to refrigerator.
15 Charge valve to suction.
16 Scale trap clean out.
17 Oil trap clean out.
18 Safety valve.
19 Fire relief valve.

White House Inspected by Westinghouse Group

WASHINGTON, D. C.—A party of 31 Westinghouse factory officials, distributors, dealers, and utility executives recently made an inspection trip to the White House to examine the newly completed White House kitchen.

Of special interest to this group were the 20 units of commercial, household, and water-cooler equipment installed by the Edgar Morris Sales Co., Westinghouse distributor here.

Feature of the installation is that the equipment is either recessed in the walls or built into the kitchen and pantry cabinets. The compressor for each unit is concealed so that only cabinets or cabinet fronts are visible. Cabinets are of table height, with ivory finish and stainless steel tops.

The group who inspected the equipment included E. P. Lock, George F. Kindley, L. Winslow, Martin Waxman, E. R. Berkeley, David Wolf, M. Zimmerman, S. Gordon Parks, L. W. Clifford, F. B. Green, M. C. Turpin, Elmer Binns, S. M. Davison, F. G. Schenkel, E. F. McCall, J. V. Russell, O. G. Snyder.

Abraham Wolf, George J. Roche, C. B. Wilcox, George Potter, Sydney Mahan, J. C. Harding, Dr. Wm. R. McClellan, R. C. Cosgrove, E. F. Sells, Edgar Morris, John Myers, W. P. Lawrence, J. T. Newcomb, and S. N. Smart.

Bakelite Board for Use In Refrigerators Is Introduced

NEW YORK CITY — Bakelite-Rogers board, a new material consisting of pulp and fibrous products treated with Bakelite resinold, has recently been put on the market by Bakelite-Rogers Co., Inc., an affiliate of Bakelite Corp.

The material may be molded into some shapes, and approaches Bakelite laminated in mechanical strength. Refrigerator breaker strips, saw handles, knobs, molded trays, baseboards, and trim are products which may be fabricated from it.

Ermstat Appoints Three Distributors of Motor Overload Protector

PHILADELPHIA—Appointment of three firms to distribute Model "B" Ermstat overload motor protector was made by Ermstat Co., here recently.

New distributors are: Paramount Electrical Supply Co., New York City; Williams & Co., Pittsburgh; and Borg Warner Service Parts Co., Chicago.

Refrigeration & Power Specialties Co., San Francisco, is a new distributing warehouse for Ermstat products.

Baker Representative in Toledo Dies

TOLEDO, Ohio—William Robinson, sales representative of the Baker Ice Machine Co., Omaha, Nebr., died at the home of his sister here last week.

Mr. Robinson, who was 69 years old, had been with the Baker Ice Machine Co. since 1924.

SERVICE ADJUSTMENT INDICATOR

An Original Development of

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The Stainless Steel THERMOSTAT

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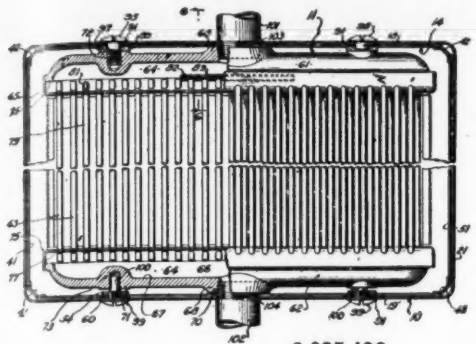
R-M REFRIGERATOR FINISHES

Challenge Comparison FOR
APPEARANCE • COLOR
DURABILITY AND ECONOMY

RINSHED-MASON COMPANY
5935 MILFORD STREET • DETROIT • MICHIGAN

HOME OF R-M REFRIGERATOR FINISHES



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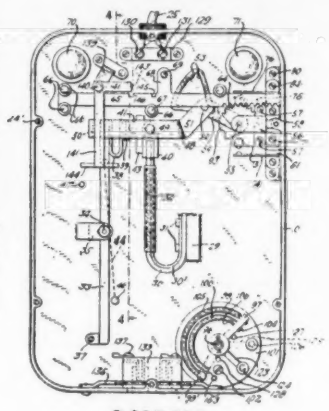

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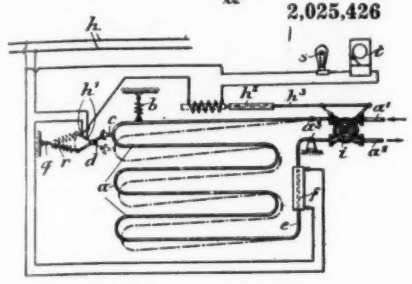

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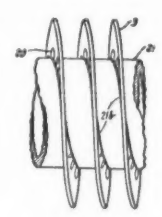

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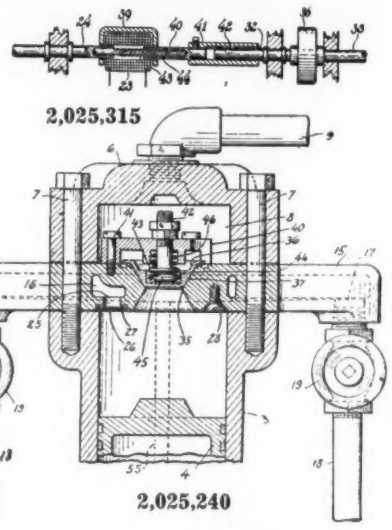

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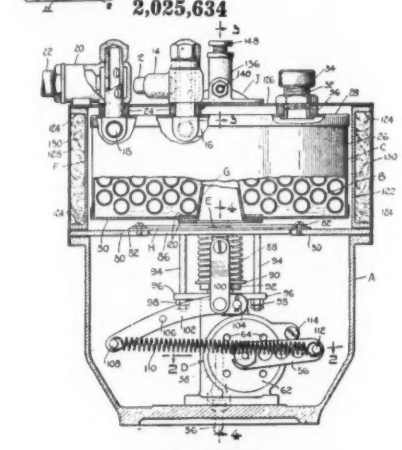

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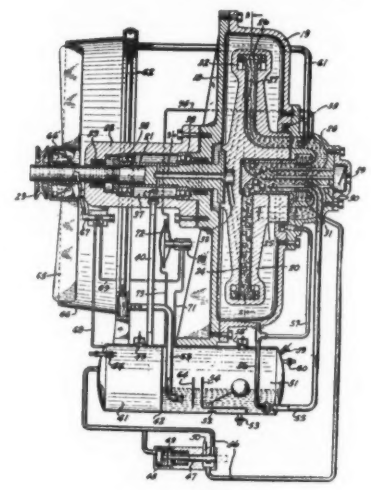


2,025,037

Patents

Issued Dec. 24, 1935

2,024,036. HEAT EXCHANGER ELEMENT. Alfred J. Berg, Portsmouth, N. H. Original application Aug. 6, 1926. Serial No. 127,692. Divided and this application Feb. 3, 1928. Serial No. 251,589. 22 Claims. (Cl. 257—262.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

2,025,037. GAS COMPRESSOR. Carl A. Bergmann, Milwaukee, Wis., assignor to Walter D. Mann, Milwaukee, Wis. Application Aug. 2, 1933. Serial No. 683,332. Renewed April 15, 1935. 20 Claims. (Cl. 230—168.)

2,025,118. BEVERAGE COOLER. Walter D. Maring, New York, N. Y., assignor to The Fred Goat Co., Inc., Brooklyn, N. Y., a corporation of New York. Application Oct. 10, 1933. Serial No. 692,922. 20 Claims. (Cl. 62—91.5.)

2,025,136. CIRCUIT CONTROLLING APPARATUS. Adolph A. Thomas, New York, N. Y. Application July 10, 1929. Serial No. 377,108. 24 Claims. (Cl. 175—320.)

2,025,240. REFRIGERANT GAS COMPRESSOR. William W. Higham, Detroit, Mich., assignor to Universal Cooler Corp., Detroit, Mich., a corporation of Michigan. Application Oct. 20, 1934. Serial No. 749,137. 9 Claims. (Cl. 230—231.)

2,025,315. MOTOR CONTROLLER. Carroll Stansbury, Wauwatosa, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware. Application April 6, 1933. Serial No. 664,695. Renewed Jan. 17, 1935. 2 Claims. (Cl. 171—242.)

2,025,426. UNIT HEATER. Edmund R. Walker, Buffalo, N. Y., assignor to Fedders Mfg. Co., Inc., Buffalo, N. Y. Application Sept. 1, 1934. Serial No. 742,444. 10 Claims. (Cl. 527—137.)

2,025,456. REFRIGERATING APPARATUS. Emil Kagi, Winterthur, Switzerland, assignor to the firm of Sulzer Freres Societe Anonyme, Winterthur, Switzerland. Application March 24, 1933. Serial No. 662,420. In Switzerland, May 13, 1932. 18 Claims. (Cl. 62—2.)

2,025,634. EVAPORATOR FOR REFRIGERATING PLANTS. Raoul Bernat and Henri Bernat, Bordeaux, France. Application June 7, 1933. Serial No. 674,755. In France, June 10, 1932. 2 Claims. (Cl. 62—126.)

INFORMAL TALK NUMBER 32

Hiring Untrained Men Is Skating on Thin Ice

An experienced skater will never venture on ice too thin to hold up his weight. And the smart distributor or dealer will never hire an untrained service man if he can get one who has been properly trained. For, after all, profits and satisfied customers depend largely on the man "who knows his stuff".

In 1936, demand that the men you hire be R-A-C-I Trained. Get the advantage of their months of preparatory work at home and the practical training given them in the Institute Shops. Write for details of this officially endorsed and factory supervised training.

Descriptive booklet sent on request.

The REFRIGERATION AND AIR CONDITIONING INSTITUTE

2130-2158 LAWRENCE AVENUE • CHICAGO

The Officially Endorsed School

Edison G-E Reduces Prices on Ranges

CHICAGO—Edison General Electric Appliance Co., announced new low prices—with a $78.50 minimum—for its 1936 range line, when the company's marketing plan was presented to distributors and salesmen, following a meeting of executives of utilities handling the Hotpoint line, held here recently.

Pierre L. Miles, sales manager, predicted that while the $78.50 range will open new markets to distributors, and be an important load builder, it probably will not be the most popular model in the line. He based his belief on the fact that public preference for 1935 favored a range with a list price of $144.75.

Complete Selling Plan

Chief feature in the company's new merchandising program was explained by W. A. Grove, advertising manager, who announced that the company will release to distributors a complete selling plan for the entire year. The outline, which has been worked out and tested during the year, will save distributors from formulating their own year's selling programs, Mr. Grove stated.

Hotpoint range line for 1936 was styled by Helen Hughes Delaney. Leading colors are white and gray. Substantial, built-in accessories are distinguishing features of the new line. Roller bearing drawers and built-in cookers are among the new features.

Cleanliness and Economy

Both cleanliness and economy will be stressed in the sales presentation and promotion material for this year, since they proved to be two dominant selling factors for 1935, it was stated. The company will offer a 60-day trial plan to build up range sales.

Distributors and utility executives were urged by Mr. Miles to sell their employees on electric cookery, and to make specialists of their salesmen.

Following his outline of selling plans for 1936, Mr. Miles predicted that 320,000 electric range sales will be made during 1936. This figure represents a 20 per cent increase over the 1935 sales, which showed a 70 per cent gain over sales for 1934.

Advertising Campaign

Advertising for Edison General Electric Hotpoint ranges will be carried in leading women's magazines, and in some general magazines. Maxon, Inc., Chicago, is the agency handling the account.

Other speakers who addressed the distributors and salesmen at this meeting, held in the Little Theater, the company's playhouse, included: A. D. Byler, vice president and general manager; A. H. Jaeger, manager of water heater sales; and George A. Hughes, president of the company, who acted as chairman during the business session held in connection with the meeting.

3,000 Will Qualify for Frigidaire B. T. U. Club

DAYTON—Total membership in the 1935 B.T.U. Club of Frigidaire Corp. will approximate 3,000 men and will shatter all previous membership records, Frank R. Pierce, manager, household division, Frigidaire Corp., stated last week.

Mr. Pierce estimated that 150 members in 1936 will wear club pins with five diamonds, representing consistent quota accomplishment for five consecutive years.

Success of Frigidaire salesmen generally in attaining their 1935 quotas is demonstrated, Mr. Pierce said, by the fact that more entire dealer organizations—dealers, supervisors, and salesmen, individually and as groups, than ever before have qualified in the 1935 club and will receive awards.

Closing of the 1935 club, on Jan. 1, marked the start of the selection of 185 national sales leaders, three sales leaders being chosen from club members in each of Frigidaire's sales districts. These men will be honor attendants at the 1936 conventions when the national sales organization of more than 18,000 men is assembled in strategically located convention cities.

From the 185 sales leaders will be selected the president, vice president, and cabinet members of the club, all of whom will receive special awards.

Gipson Opens Second Indianapolis Store

INDIANAPOLIS — Charles Gipson, Norge dealer here, has opened a second showroom at 33 W. Ohio St. here, under the name "Complete Norge Store."

All Norge household appliances, and the Norge commercial refrigeration line, will be handled at the new establishment, Mr. Gipson announced.

Haas Heads G-E Dept. In Macy's Store

NEW YORK CITY—Milton Haas has been appointed manager of the Rex Cole (General Electric New York distributor) retail department in R. H. Macy & Co. store, succeeding Samuel Scott.

Mr. Haas was previously division manager for Rex Cole retail stores in Brooklyn.

Bamberger Forms Own FHA Financing Subsidiary

NEWARK—Approved by the Federal Housing Administration for making loans under its modernization loan plan, L. Bamberger & Co. has formed a subsidiary company called the Home Improvement Finance Corp.

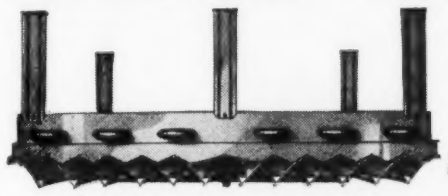
Under the department store's loan corporation terms are: no down payment, up to three years to pay, and minimum purchase of $50.

The plan is being heralded with this announcement: "You need not leave Bamberger's to complete financing."

The Buyer's Guide

Suppliers Specializing in Service to the Refrigeration and Air Conditioning Industries

PEERLESS FLASH COOLER



The NEW Eye Appealing Method of Cooling Walk-In Refrigerators

STYLE & RESULTS

Fin Coil and Drip Pans Engineered in an Integral Unit—Saves Installation Cost and Operating Cost

PEERLESS ICE MACHINE CO.

CHICAGO 515 W. 35th St. — TWO FACTORIES — NEW YORK 43-00 36th St., L.I.C.

REFRIGERATOR CABINETS

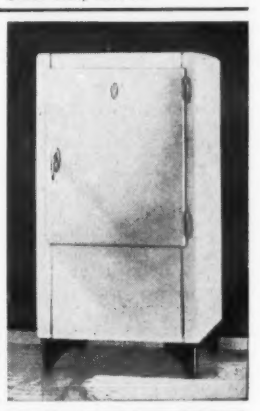
4 to 14 Cu. Ft. Models in Stock

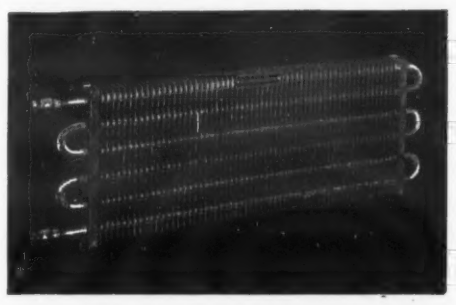
Also Specials for that Hard-to-Fit Location and For Apartments

Custom-Built at Production Prices

HEINZ & MUNSCHAUER, Buffalo, N.Y.

Makers of Quality Refrigerators Since 1865



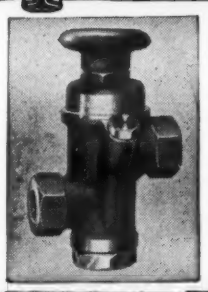


REMPE FIN COILS

Pipe Coils and Bends

CHICAGO STATION D

STANDARD REFRIGERATING APPLIANCES



AUTOMATIC SUCTION PRESSURE THROTTLING VALVE

Write for bulletin on complete line covering refrigerating appliances, liquid line filters, dehydrators, acid neutralizers, standard parts and materials, service tools, shaft seals, bearing metals and parts. Descriptive literature will be gladly furnished on any or all of these lines on request.

AMERICAN INJECTOR COMPANY 1481-14th. Street, Detroit, Mich.

KRAMER

COMMERCIAL EVAPORATORS

3" - 2½" - 2" - 1¾" - 1½" & 1¼"

TUBE CENTER

Built to any overall sizes and capacities

UNIT COOLERS — COOLING COILS — CONDENSERS

TRENTON AUTO RADIATOR WORKS

210-212 West 65th. St. New York City — TRENTON New Jersey — 5114 Liberty Ave. Pittsburgh, Pa.

BOUND VOLUMES

Each of the following volumes contains all weekly issues of Electric Refrigeration News issued during a period of four months. Stiff paper board covers.

Vol. 8—Jan. 4 to April 26, 1933. (Serial Nos. 198 to 214.)
Vol. 9—May 3 to Aug. 30, 1933. (Serial Nos. 215 to 232.)
Vol. 10—Sept. 6 to Dec. 27, 1933. (Serial Nos. 233 to 249.)
Vol. 11—Jan. 3 to April 25, 1934. (Serial Nos. 250 to 266.)
Vol. 12—May 2 to Aug. 29, 1934. (Serial Nos. 267 to 284.)
Vol. 13—Sept. 5 to Dec. 26, 1934. (Serial Nos. 285 to 301.)
Vol. 14—Jan. 2 to April 24, 1935. (Serial Nos. 302 to 318.)
Vol. 15—May 1 to Aug. 28, 1935. (Serial Nos. 319 to 336.)

Price $3.00 per volume, f.o.b. Detroit. Shipment will be made by express collect unless otherwise specified. Please send remittance with order.

Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

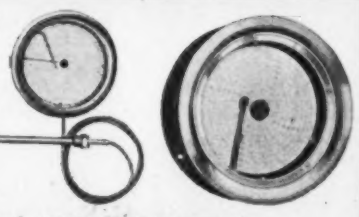
Refrigeration Instruments by Marsh

MARSH REFRIGERATION RECORDING GAUGES AND THERMOMETERS are available for all applications.

Recording gauges are available with dials reading pounds pressure per square inch for ammonia, Freon and other low pressure refrigerants and in pounds pressure per square inch or atmospheres for carbon dioxide.

Recording thermometers are available in standard ranges for all applications and with bulbs suitable for all media.

Multiple pen instruments can be used to record on the one chart temperatures at several points or, where desired, both pressure and corresponding temperature.



Jas. P. Marsh Corporation

2067 SOUTHPORT AVE., CHICAGO, ILL.

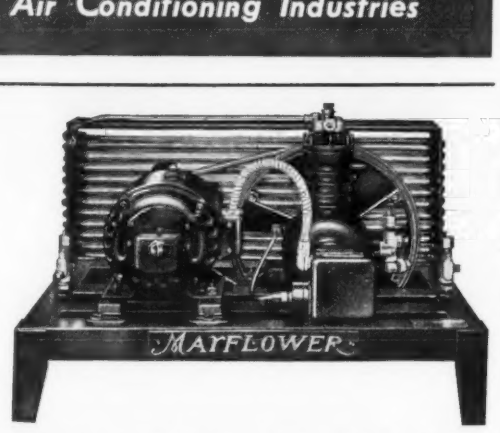
The Buyer's Guide

Suppliers Specializing in Service to the Refrigeration and Air Conditioning Industries

HARDY
"Mayflower"
Compressors

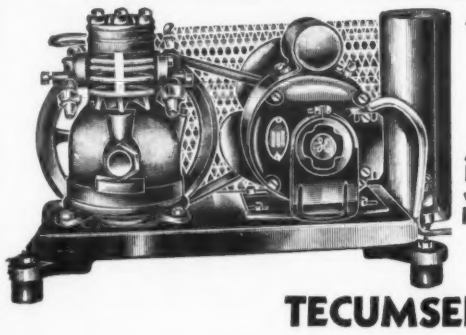
exclusively manufactured for Commercial use, are the units which have long met with general approval.

For dependability and genuine satisfaction, dealers are recommending this equipment



HARDY MANUFACTURING CO., Inc., 100 Davis Ave., Dayton, Ohio

CONDENSING UNITS
AND
COMPRESSORS
FOR HOUSEHOLD REFRIGERATION
BY
JOMOCO, INC.
A SUBSIDIARY OF THE
JOHNSON MOTOR CO.
Waukegan, Ill.
CABLE ADDRESS: JOMOCO-WAUKEGAN



"CHIEFTAIN"
QUALITY-BUILT
COMPRESSORS and
CONDENSING UNITS

All bearings diamond bored. Positive lubrication of piston by newly developed process plus forced feed lubrication in all models.

Sizes: 1/6, 1/5, 1/4, 1/3 h.p.

Write for prices

TECUMSEH PRODUCTS CO.
Tecumseh, Mich.

KOCH COMMERCIAL REFRIGERATOR CABINETS

All types and sizes of heavily insulated refrigerators and display cases.

WANTED—
DISTRIBUTORS and SALES AGENTS

Attractive sales proposition. Some good territories available. Many exclusive features. Write for information, and submit your qualifications.

KOCH REFRIGERATORS, North Kansas City, Mo.

TYLER'S NEW WELDED STEEL REFRIGERATOR CASES

At last a general purpose case at a sensible price. Offers every advantage of the most costly cases at tremendous savings. Modern in every detail. Comes equipped with coils. Single and double duty models.

AN AMAZING VALUE

Hundreds in use. Every store and market a prospect. Home Equipment Company, Fort Wayne, Ind., sold nine cases in two weeks. Write or wire for all the facts.

TYLER *Sales Fixture* CO., Dept. E, Niles, Michigan

3 INCH INSULATION-TRIPLE GLASS

BINDERS
For back issues of the News

We offer a binder designed and made especially for keeping your file copies of Electric Refrigeration News neat and always available for ready reference.

It is made of stiff board covers, attractively bound in good quality of black imitation leather. The name Electric Refrigeration News is stamped in gold on the front cover and backbone.

The price is $3.75 shipped to you post paid in the United States and Possessions and Pan-American Postal Union countries. For all Foreign countries postage based on a shipping weight of 6 pounds must be added to this price. Send your remittance with order. May we send you one?

Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

PURO
ELECTRIC WATER COOLERS

Thoroughly reinforced all steel attractively finished cabinets.

Different models of varying capacities.

Write for details and sales prices.

Puro Filter Corporation of America
440 Lafayette Street, New York City Spring 7-1800

It's Summer Time in Australia

The biggest booster for the NEWS in Australia is the firm of F. C. Lovelock, Ltd., manufacturers' representatives and refrigeration supply jobbers, Sydney, New South Wales. For several years they have been sending in subscription orders for their customers all over Australia and have become official representatives of Business News Publishing Co. by right of discovery, natural process of selection, and much very fine cooperation.

On Feb. 22, Editor George Taubeneck, is scheduled to arrive in Sydney and of course he will immediately head for the Lovelock establishment and call for F. E. Hansen, general manager, who appears in the above picture, second from the right. It will be late summer in Australia when George arrives, so we may expect a report on the results of the 1936 refrigeration selling season on the other side of the equator.

The above snapshot shows the group of refrigeration people at a week-end party early in December. Reading from left to right, you see: Bert Yates, George Harris, Dave Smythe, Frank Hansen, and Cyril Wood. Mr. Harris (second from the left) is managing director of Harris, Hutchinson & Co., Ltd., the largest manufacturers of refrigeration cabinets in Australia.

Comment

By F. M. Cockrell

(*Concluded from Page 8, Column 5*)

Hoist the Flag

On the date of this issue the writer of this "Comment," the publisher of this sheet, and the "Uncle Frank" of the NEWS staff really ought to hoist the flag, get drunk, declare a holiday, or otherwise celebrate the occasion.

Why? Because this 355th issue contains the first *all-color* four-page advertisement ever to appear in the NEWS, it will have the largest *all-paid* circulation (35,000 copies) of any single issue and, in addition to that, it is my 49th birthday.

January 8 becomes another important date on the NEWS calendar because Editor George Taubeneck starts on the *longest trip* (around the world) ever assigned to a member of the staff.

Judging from the advertising schedules, subscription orders, book orders, and other indicators, 1936 looks as though it might be a pretty good year for the NEWS.

For my part, I certainly hope the next six years will be *easier* than the last six.

It has been comforting to have *a job* throughout all of those depression years, but I have had too confounded many jobs to do.

With all these schemes to distribute things, I wish that the government would find some way to distribute *un*employment a little better.

* * *

The Hard Working Crew Of Kelvinator

The refrigeration industry has made a phenomenal record during the lean years, but it has been the hardest working industry in the country.

The Kelvinator advertisement in this issue makes the statement that:

"Big things are happening at Kelvinator—Big things have happened at Kelvinator—Big things will happen at Kelvinator—because men in the factory—men in the field—like working and thinking, and growing and succeeding—with one another.

"Not money, not machinery, not plant and equipment—but *men.*"

And that's right.

* * *

Don't Look for Easy Money In Air Conditioning

The refrigeration business is no place for the fellow who is looking for something soft. The opportunists who rushed in looking for easy money back in the early days soon found themselves lost in the dust.

I have an idea that it will work out about the same way with air conditioning.

The other day somebody said that the plumbers and steam fitters are looking forward to air conditioning as a chance to make some *real money.*

Mebbe so, but they will have to step a lot faster than they have in the past if they are going to keep pace with men trained in the refrigeration schools.

Who Will Sell It?

Right now, a lot of people are trying to figure out how is the best way to hook on to the air-conditioning band wagon.

Many have been asking us: "What kind of air-conditioning equipment is going to sell?"

Well, that depends a good deal on who is going to do the selling.

Years ago when the electric appliance business (washing machines, vacuum cleaners, etc.,) was just getting started, there was a big argument as to who the business *belonged to.*

Meetings were held and speeches made to prove that the business belonged to the public utilities, or the electrical contractors, or the hardware stores, or whoever.

When the argument was at white heat, a trade paper *(Electrical Merchandising)* came out and announced that *"business belongs to the man who goes after it."*

* * *

No License Plates

Household electric refrigerators, unlike automobiles, do not require a new set of state license plates fore and aft each year. Therefore, the job of compiling electric refrigeration statistics is not a simple matter of collecting data from the licensing bureaus of the 48 states, as it is in the case of automobiles.

Obvious as that fact may be, we continually receive letters from figure seekers who cannot understand why a first-class paper like the NEWS does not furnish a complete and detailed record of the sales by each manufacturer, tabulated by states and counties, together with supplementary figures showing types and sizes, retail price, obsolescence rate, etc., "like the automobile papers do."

No doubt all regular readers of the NEWS understand the situation because they know that the editors have never failed to publish *in detail* every bit of statistical information from every available source and that *all* the data is correlated and reprinted annually in the MARKET DATA BOOK.

* * *

Figure Fodder for the Speechmakers

Most of the inquiries, with an urgent request for a reply by wire or return mail, now come from people outside of the industry who want to get a report, present a thesis or make a speech on the past, present, or future of business, civilization, or the standard of living.

It suddenly occurs to them that the sale or use of electric refrigerators would probably provide an indicator, prove a point, or at least sound impressive.

Here at the NEWS office, we have long since become immune to the contagious excitement of Rotary Club orators, magazine writers, and high school debaters. Our stock answer is "send $3.00 for a copy of the REFRIGERATION AND AIR CONDITIONING MARKET DATA BOOK."

Much time and effort is expended, however, compiling statistical information which will serve our *cash customers* as a guide to their business operations.

* * *

Christmas Postscript

Acknowledgement, with many thanks, to the following, in addition to those listed in the two previous issues, who sent gifts and greetings:

Louis Ruthenburg, Evansville, Ind.
The Hanrahan Co., New York.
O. S. Tyson, New York.
John T. Schaefer, York, Pa.
H. O. Danz, Detroit.
Frank B. Riley, Detroit.

Bourla Freres & Cie, Hezaren Caddesi 1-3, Galata, Istanbul, Turkey.

B. Mittell, Taeda, Windsor Road, Gerrard's Cross, Bucks, England. Mr. Mittell's business address is: Electric & Musical Industries, Blyth Road, Hayes, Middlessex, England.

From Walter Seeger of Seeger Refrigerator Co., St. Paul, a handy, zipper-operated, leather key case with "F.M.C." initialed thereon.

From Ray Smith, president of the Refrigeration and Air Conditioning Institute, Chicago, a handsome leather year book containing a great collection of information useful to a business man. It was immediately borrowed by the subscription department because it gives a list of every county of every state, with the population and principal cities.

A calendar from Frank Hanson of F. C. Lovelock, Ltd., Sydney, containing 28 large pictures of Australian scenes, especially interesting to us because editor George Taubeneck will be visiting that city within a few weeks. An aerial view of the Sydney cricket grounds shows a *circular* field.

* * *

A Letter to George

If you want to send a letter to George Taubeneck any time during the month of January, address him in care of F. E. Hansen, general manager, F. C. Lovelock, Ltd., 235 Clarence St., Sydney, Australia. (Cable address: Lovelock—Sydney) George will arrive in Sydney on Feb. 22 and will stop over in Australia 14 days, sailing for Brisbane on March 7.

You readers of the NEWS in the U.S.A. should be able to remember his date of arrival in case you mislay this copy, since Feb. 22 is the birthday of another famous George who was quite a traveler in his day.

It takes just about a month for a letter to go from the eastern part of the United States to Australia. On Nov. 7, some beautiful-but-dumb member of our office force was in a hurry to meet her date about five o'clock, so she put a letter for the Whitescarver Refrigeration Co., Roanoke, Va., in an envelope addressed to the Lovelock Co. in Australia and vice versa.

The Whitescarver letter was received in Sydney on Dec. 2, mailed back to us on Dec. 13, and arrived in Detroit Jan. 4, making the round trip in a little less than two months.

In the meantime, of course, the Whitescarver Co. kindly returned the Lovelock letter and copies of both letters were made to be correctly mailed. (Now, girls, see what a lot of bother you may cause by carelessness. Let that be a lesson to you.)

DU PONT

Artic
REG. U. S. PAT. OFF.
(DU PONT METHYL CHLORIDE)

Stable, non-corrosive, easily handled and high operation efficiency are among the features which make ARTIC *the* refrigerant for domestic and commercial jobs.

Today, *22 out of 28* manufacturers of commercial units and *9 out of 30* manufacturers of household units use ARTIC as the refrigerant for all or part of their line, because it provides efficient, dependable refrigeration.

ARTIC is stocked in standard containers at 51 points in *43* principal cities. Authorized distributors are listed in "ARTIC Service News." Send for your copy.

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E. I. DU PONT DE NEMOURS & COMPANY, INC.
Wilmington, Delaware
District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

Classified

RATES: Fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

SALESMEN WANTED. Sales engineer now traveling east or central west or preferably both, to represent us calling on jobbers. Product has instant appeal and only awaits introduction. Three of largest jobbers in U. S. now handling with success. Give full information about yourself including territory traveled. Salary and commission. Box 751, Electric Refrigeration News.

SALES MANAGER for appliance division of well rated specialty distributor handling one manufacturer's line of major household gas and electric appliances exclusively. Territory embraces sixty counties of two states in Western Great Lakes region. Potential sales $600,000. Give full qualifications in first letter and do not apply unless thoroughly experienced in this type of merchandising. Box 757, Electric Refrigeration News.

EXECUTIVE TYPE salesman with electrical merchandising experience wanted by prominent California distributor. President will interview men while on eastern trip in near future. Please give full particulars of experience and references. Box 756 Electric Refrigeration News.

WANTED commission men calling on refrigeration and washing machine trade, to handle Goodyear V-belts for replacement. Exclusive territories still available. Liberal commission. Prefer men selling allied lines. Write in detail to Detroit Rubber Products, Inc., 35 Parsons St., Detroit, Mich.

POSITIONS WANTED

PRACTICAL ENGINEER desires position operating boiler, steam, mechanical or low pressure refrigeration plant in apartment or business establishment. Has had technical and practical training with several refrigerants. At present operating small refrigeration service station. Not particular about location. References furnished on request. Box 755, Electric Refrigeration News.

EQUIPMENT FOR SALE

ISOBUTANE: We offer purest and dryest Isobutane for the most exacting scientific purposes; in your 80 lb. cylinders at $0.75, in our 120 lb. cylinders, $0.70, in small lots at $1.00 per pound. The Standard Refrigeration Co. of Pittsburgh, 1148 Dohrman St., McKees Rocks, Pa.

DEALERS AND SERVICEMEN. We sell used refrigerators "As Is". Recondition and spray them yourself and save money. Used Kelvinators $19.00, Frigidaires $25.00, Copelands $22.50, Servels $19.00, Ice-O-Matics $39.00, also General Electric, Westinghouse, Electrolux and many others. Some all porcelain. Pilgrim Refrigeration Co., 43-47 39th Place, Long Island City, N. Y.

REPAIRS

HALECTRIC control repair service. All makes thermostatic and pressure controls rebuilt. Automatic and thermostatic expansion valves repaired. Refrigerant gases carried in stock for rush shipment. Warrenoil for stuck-up compressors. Rebuilt American Radiator Mercoid controls similar to No. 848, five dollars each. Halectric Laboratory, 1793 Lakeview Rd., Cleveland, Ohio.

HERMETIC UNITS REPAIRED

GENERAL ELECTRIC SEALED UNITS—repaired, rebuilt, exchanged. Guaranteed service. Our modern shop is especially equipped to efficiently repair these units. Prices low and workmanship the best. Give model number when writing. Immediate service. Rex Refrigeration Service, 446 East 79th St., Chicago.

HERMETIC UNITS rebuilt or exchanged: Majestic all models $17.50, Servel $22.50, G.E. $25.00 and $32.50, other standard makes $19.50. Majestic Hermetic Dome assembly $12.50, Majestic standard compressors $6.50, thermostat or cold control exchange $2.50. Other prices on request. Six months guarantee. Wholesale only. Refrigeration Products, Inc., 122 W. Illinois St., Chicago, Ill.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. Van Deventer (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

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Questions

Cadmium Plating

No. 2633 (Dealer, Oregon)—"We are anxious to secure all possible information concerning Cadmium plating, therefore will appreciate you advising us as to where we may secure same."

Answer: We suggest that you contact the following companies: The Grasselli Chemical Co., 621 Euclid Ave., Cleveland, Ohio; and Belmont Smelting & Refining Works, 320 Belmont Ave., Brooklyn, N. Y.

Air-Conditioning Data

No. 2634 (Advertising Agency, Illinois)—"In your issue of Feb. 6, 1935, you showed a rather comprehensive listing of Chicago residential, commercial, and industrial installations of air-conditioning equipment. Are we correct in assuming that this listing was made up entirely of air *cooling* and filtering equipment, not heating?

"Do you have similar lists for the whole United States or at least principal cities and, if so, what charge do you make for them?

"If you do not have such lists yourselves, is there any central source from which we could secure such names, either on a national basis or state or large city basis?

"If there is no central source for such information, can it be secured by communities from the various electric light and power companies on a basis which corresponds roughly to the information available through Commonwealth Edison Co. here in Chicago, who secure the names of such purchasers when they apply for electric power connections?

"Any information you can give us on these various points will be greatly appreciated."

Answer: We have information on air-conditioning installations similar to that published on Chicago for only one or two major cities.

A summary of the air-conditioning installations in some 35 major cities throughout the country, by type of establishment, is published in the 1935 REFRIGERATION AND AIR CONDITIONING MARKET DATA BOOK.

We have also published from time to time this year, summaries for large cities similar to those appearing in the MARKET DATA BOOK for six or nine months' period of 1935.

We do not believe there are many power companies which keep the comprehensive records on air-conditioning installations that are gathered by the Commonwealth Edison Co. in Chicago.

Location of Sunbeam Co.

No. 2635 (Service Firm, Michigan)—"Can you please give me any information as to where the Sunbeam Electric Refrigerator Co. is located."

Answer: Address of the Sunbeam Electric Manufacturing Co., which makes Sunbeam household refrigeration units, is 225 W. Morgan Ave., Evansville, Ind.

Small Air Conditioners

No. 2636 (College of Medicine, Arkansas)—"I am interested in receiving the names of manufacturers of air-conditioning equipment that produce small units applicable to single rooms. I am especially interested in the possibility of obtaining a unit that uses ice as the means of cooling, if such units are manufactured. I should be interested in any information in this regard that you may be able to supply me."

Answer: A classified list of manufacturers of all types of air-conditioning equipment including mechanical and ice type room coolers may be found on pages 150 through 164 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

R. M. A. Address

No. 2637 (Manufacturer, Wisconsin)—"What is the address of the Refrigerating Machinery Association?"

Answer: Southern Building, Washington, D. C.

Electric Defrost Clocks

No. 2638 (Exporter, New York)—"From South African clients we have an inquiry for electric defrost clocks which they advise us are used in connection with electric refrigerators for the purpose of defrosting automatically the electric refrigerators to which they are fitted.

"If you could give us the name and address of the manufacturers it would be greatly appreciated."

Answer: Electric defrost clocks are manufactured by the following companies: Frostoff Co., 250 E. 43rd St., New York, N. Y.; General Electric Co., Schenectady, N. Y.; Landis & Gyr, Inc., 104 Fifth Ave., New York, N. Y.; Stat-Amatic Instrument & Appliance Co., 19 New Park Ave., Hartford, Conn.

Commercial Figures

No. 2639 (Advertising Agency, Michigan)—"Can you supply us with the following information?

"How many commercial refrigeration machines have been sold thus far in 1935, and how many in previous years? What is the total dollar value of the machines sold? Have you any sales records on water coolers and beverage coolers?

"What was the volume of air-conditioning business done this year? In previous years?

"Who are the leading manufacturers of commercial refrigeration machines, air-conditioning equipment, water coolers, and beverage-cooling equipment?"

Answer: Sales of commercial condensing units of less than 1 hp. as reported by 19 members of the Commercial Section of the Refrigeration Division of National Electrical Manufacturers Association for the first 10 months of 1935 totaled 107,221 units with a total factory value of $11,936,378.

On pages 74 and 78 of the 1935 REFRIGERATION AND AIR CONDITIONING MARKET DATA BOOK is an analysis of commercial refrigerating machine sales for the past several years, which may be of more value to you than the 1935 figures because they include commercial machines of all sizes.

By an agreement in 1934 of Nema with the Refrigerating Machinery Association it was decided that machines of 1 hp. or more would fall within the province of the RMA, which explains why Nema commercial refrigeration machine sales figures cover sales of units only in sizes up to 1 hp. RMA has not as yet issued sales figures for 1935.

The analysis of commercial sales on page 74 gives estimates on water cooler sales, but there is no breakdown for beverage cooler sales.

In a story on page 1 of the Jan. 1, 1936, issue of ELECTRIC REFRIGERATION NEWS, figures gathered by the Air Conditioning Manufacturers Association show an estimated dollar volume of 35 million dollars for the air-conditioning industry in 1935. It is expected that the Association will make available estimates on unit sales at an early date.

On pages 150 through 158 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY are listed all manufacturers of air-conditioning equipment.

Manufacturers of commercial refrigeration units are listed on pages 185 and 192, beverage cooler manufacturers on 171 and 173, and manufacturers of water-cooling equipment on pages 214 through 218.

Orphan Service Data

No. 2640 (Service Firm, New York)—"Some time ago you published a series of articles in the ELECTRIC REFRIGERATION NEWS on obsolete machines. I have articles on the Majestic, Absopure, Electrice, Holmes, Iceberg, Welsbach, and Allison. If there is any way of securing articles on other machines kindly advise the cost of obtaining same as I am anxious to secure them.

"Have you published a Service Manual on all makes of electric refrigerators and if so what will be the cost?

"Kindly enter my subscription to ELECTRIC REFRIGERATION NEWS for one year."

Answer: The MASTER SERVICE MANUAL to be published some time this month will contain service information on the following obsolete makes of refrigerators: Absopure household, Majestic Hermetic, Allison, Welsbach, Rice, Wayne, Absopure Commercial, Iceberg, U. S. Hermetic, ElectrICE, Majestic conventional, Holmes, Iroquois, Socold, and Ice-O-Lator.

This manual will consist of a compilation of the series of articles by K. M. Newcum which were published in the weekly issues of ELECTRIC REFRIGERATION NEWS, starting with the April 10, 1935 issue, together with other supplementary material. It will contain complete information on the installation and servicing of all the fundamental types and varieties of electric refrigerators, and will give detailed instructions regarding the methods of handling each of the problems most commonly encountered in practical experience.

Dry Ice Refrigeration

No. 2641 (Manufacturer, Greece)—"We are interested in the new method of dry refrigeration and should be much obliged if you would be kind enough to give us the names of firms supplying machinery in connection with same for commercial purposes.

"We should also much appreciate any further advice or information you could give us on this matter, and as we wish to get started as early as possible, we should feel grateful for an early reply."

Answer: The following companies manufacture dry ice making equipment: Carbondale Machine Corp., Harrison, N. J.; Frick Co., Waynesboro, Pa.; and York Ice Machinery Corp., York, Pa.

The Carbonic Equipment Co., 3516 Spring Garden St., Philadelphia, Pa., manufactures equipment for use with dry ice, and they also may be able to help you. A large producer of dry ice in this country is Liquid Carbonic Corp., 3100 S. Kedzie Ave., Chicago.

The Buyer's Guide
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No. 20 for ⅛" to 1⅜" o.d. inc... 2.75
No. 30 for 1" to 2⅛" o.d. inc... 3.75
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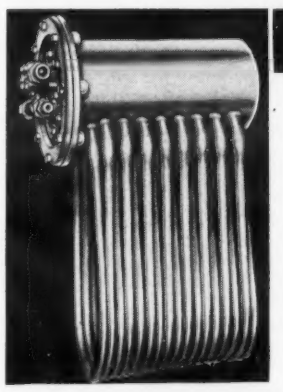
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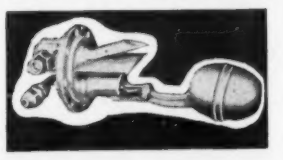

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